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**Assess LTSB mobile banking usage  
by customers in the Chester area  
during June & July 2011**

**Chris Hampshire**

A dissertation submitted in partial fulfilment of the requirements of the  
University of Chester for the degree of  
Master of Business Administration



**Business School**

September 2011

## **Abstract**

Over the last decade the focus of the UK banks has been on delivering electronic banking through Personal Computers (PCs) in order to reduce their operational costs.

Information Technology and new distribution channels are two key drivers of strategic change and smart-phones are Information Technology devices that can act as electronic distribution channels.

Smart-phones have become more widespread than PCs in the UK and consequently smart-phones provide an opportunity for Lloyds TSB to extend their electronic banking services to a wider customer base. The effective use of mobile banking through smart-phone usage by customers will assist Lloyds TSB in reducing their operational costs as customers undertake the banking transactions themselves rather than using branches or call centres.

The recent phenomenal growth in the number of UK customers with smart-phones provides an opportunity for Lloyds TSB to effectively use this development as a further opportunity to meet their overall business strategy.

## **Declaration**

This work is original and has not been submitted previously for any academic purpose. All secondary sources are acknowledged.

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Signed: \_\_\_\_\_

Date: 24<sup>th</sup> September 2011

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Chris Hampshire

September 2010



# 1. Introduction

## 1.1 Background to the Research

The Industry Life-Cycle model as shown below as Figure 1 identifies that UK retail banking is well into the maturity phase with low-growth and standard products with high barriers to entry where cost and market share are key determinants to ongoing success.

### Industry Life-cycle model

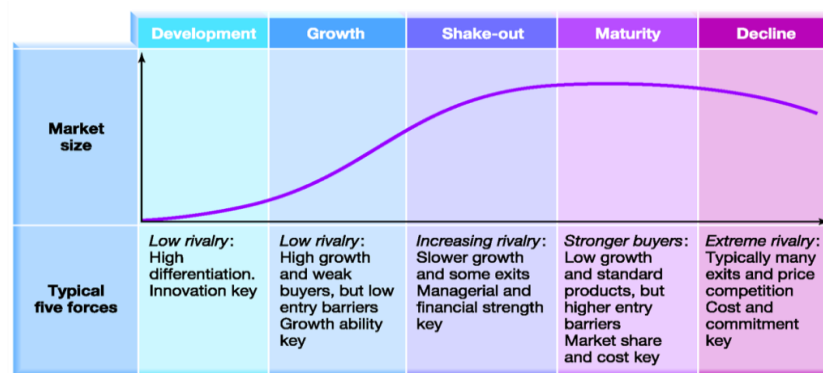


Figure 1 – Industry Life-cycle model

Lloyds TSB bank plc (LTSB) have consistently identified cost savings as a fundamental part of their overall strategy with a 6% cost reduction achievement specifically identified in the Group Chief Executive's statement within the 2010 Annual Results (LTSB, 2010). LTSB have identified that deployment of information technology that allows customers to undertake their own day to day banking transactions is one way LTSB can continue to deliver on this strategy. As a result, LTSB initially deployed Internet banking services but more recently expanded this with the provision of mobile banking services.

Over the last decade the focus has been on delivering electronic banking through Personal Computers (PCs). However, there has been a phenomenal growth recently in the number of customers with smart-phones. 302.6 million smart-phones were shipped worldwide in 2010; a 74.4% increase on the previous year (IDC, 2010).

Information Technology and new distribution channels are two key drivers of strategic change that are identified by Dibbs, Simkin, Pride and Ferrel (2001) and smart-phones are Information Technology devices that can act as an electronic distribution channel. As a result, smart-phones have become more widespread than PCs in the UK. Smart-phones therefore provide a further opportunity for LTSB to extend their electronic banking services to a wider customer base whilst further reducing LTSB's operational costs.

Bitner, Ostrom and Meuter (as cited by Cunningham, Young & Gerlach, 2009) identify that mobile banking services are provided for various reasons including:

- Reducing operational costs. When a customer initiates and completes a transaction using a mobile banking service no bank staff involvement is required and hence staff cost savings can be realised.
- Providing an improved customer service. Mobile banking allows a customer to undertake his or her banking activities at any time and in any location that is convenient to the customer and are therefore the customer is not restricted to branch or call centre opening times.
- Customers who use mobile banking to conduct their transactions make more time available for the bank's front-line staff to better serve those customers who prefer to bank using more traditional face to face methods.

This research explores aspects related to the first two points above.

## **1.2 Research Question**

There is a very limited amount of contemporary research focussed on mobile banking or text message alerts within the UK. The provision of text alert service is becoming more prevalent as banks provide customers with the ability to better manage their current account balance in the current economic environment (Bank Administration Institute, 2011).

Meanwhile, the UK communications regulator's International Communications Market report (OFCOM, 2010) clearly shows that UK consumers have a higher than average propensity to own portable devices such as smart-phones and PDAs and use them to access the internet and to communicate.

UK banks have to invest in new technologies to contain operational costs whilst these technologies provide the potential to generate additional revenue streams. The provision of mobile banking services is one way a bank can achieve this aim. However, it is imperative that mobile banking features and functionality offered are the ones that actually improve customer acquisition and retention whilst assisting in building customer profitability. LTSB offers a mobile banking service to customers, although it is actually provided as an extension of LTSB's Internet banking service where customers have to register for Internet banking as the first step in being able to use mobile phone banking.

This research includes a review of relevant current literature which applies to the UK mobile banking market and summarises contemporary thinking on customer behaviour relevant to mobile banking as it applies to the UK.

The research aim of this paper is to:

**Assess LTSB mobile banking usage by customers in the Chester area  
during June & July 2011.**

This research explores the following aspects:

- The types of customer that use LTSB's mobile banking service.
- Customer resistance that restricts wider usage (Attitude).
- The LTSB mobile banking services used (Behaviour).

Consumer market research is undertaken in Chester and uses purposive sampling techniques (Fisher, 2010) whilst the customer questions are pre-selected and pre-coded using Robson's (2002) guidelines with answers based upon the Likert scale (Likert, 1932).

This research reviews LTSB's mobile banking service, draws conclusions from the consumer market research undertaken in Chester and makes recommendations for improving both customer adoption and customer usage of LTSB's mobile banking services.

### 1.3 Justification for the Research

Internet banking is the current leading electronic channel for banks where the electronic delivery channels have been introduced by banks to reduce their operational costs, although telephone banking is also used in the UK banking market according to Howcroft, Hamilton and Hewer (2002).

Significant research already exists on the adoption of telephone banking (Al-Ashban & Burney, 2001) as well as Internet banking (Bradley & Steward, 2002) whilst much of the existing research in electronic banking services has adopted an organisational perspective (Daniel, 1999) or a distribution channel perspective (Black, Lockett, Ennew, Winklhofer & McKechnie, 2002).

Meanwhile, wireless service capability has changed significantly in the last few years with the provision of 3G and 3.5G networks along with mobile phones that support this network connectivity. Consequently, adding digital channels such as mobile banking through wireless technology to a bank's range of delivery channels will assist in reducing operational costs by providing customer with self-provisioning capabilities (Durlacher Report 2001). However, the concepts of innovation and diffusion of innovation have become even more intricate as technology and service aspects affect the characteristics of mobile banking services (Mohr, 2001).

Mobile banking is a new market development and as a result, a number of companies are exploring ways in which to participate in the business opportunities presented. Visa Europe teamed with Wireless Dynamics in January 2011 on a NFC system that turns Apples' i-phone into a contactless mobile payment system (VISA, 2011) whilst the search engine company Google identified the development of mobile money platforms as a key strategic priority for the search engine giant in 2011 (Google, 2011).

Contemporary research on mobile banking has predominantly focussed on two specific areas: the rapidly evolving market of mobile payments particularly in the USA (Au & Kauffman, 2008) and payments made with mobile devices using NFC communications particularly in Finland and the Far East (Mallat, 2006; Flinders, 2008). As a result there is a very limited amount of contemporary research on mobile banking that applies to the UK market.

The paradigm shift from traditional branch banking to electronic banking, the new emerging channel delivery opportunities together with the rapid increase in mobile phone penetration rates are further motivators for this study.

The author of this research has managed the introduction of new electronic channel developments for a number of UK banks in both permanent and interim roles. This research provides an insight into how LTSB can improve their mobile banking service to get more customers using their mobile banking channel which will then assist in meeting the bank's strategic objective of reducing their operating costs.

#### **1.4 Methodology**

This paper uses market research that is undertaken with LTSB customers to obtain an understanding of their reasons for using LTSB's mobile banking service and therefore takes a phenomenological perspective which seeks to understand the actual customer experience rather than explaining it according to Johnson and Duberley (2000).

Convenience market research is undertaken using an interpretive paradigm approach where a questionnaire is used that contains fixed choice questions answered by LTSB's customers (Silverman, 1993). A pre-coded questionnaire is used that contains a limited number of conditions identified for research to ensure that customers actually complete the questionnaire. The questions asked are simple and precise as suggested by Dillman (2007) to minimise question ambiguity and thereby increasing the validity of the responses and the subsequent analysis of these responses.

Analysis of the questionnaire responses is undertaken to identify the reasons why customers use, and do not use, LTSB's mobile banking service; what barriers applied to customers proposing to use LTSB's mobile banking services and what type of mobile banking services LTSB's customers already use. This analysis is required to identify what actions LTSB can undertake to improve customer usage of their mobile banking services whilst also identifying areas for further research.

## 1.5 Outline of the Chapters

Chapter 1 provides an introduction to the dissertation along with background to the research. The research question is then defined along with the associated aims and justification for the research. A brief outline is then provided for the research methodology used along with a list of definitions for the key terms used within this research.

Chapter 2 provides a review of the contemporary literature which sets the context for the research question before identifying those specific areas of mobile banking that are relevant to the research question.

Chapter 3 describes the research methodology that was used along with the rationale that supports this methodology and the applicability to the research question. The research design is then described along with the research process that was adopted and concludes with a review of the ethical issues that arose from the research approach.

Chapter 4 details the findings that have been identified from the analysis of questionnaire responses and includes summary information along with detailed analytics of the customer questionnaire responses.

Chapter 5 contains a critical review of the methodology that was used for this research along with detailing the conclusions that are derived. The limitations of this research study are then outlined together with suggestions for further research on mobile banking in the UK.

Chapter 6 identifies a number of recommendations for improving both customer adoption and customer usage of LTSB's mobile banking services.

## 1.6 Definitions

The following definitions have been applied to and used within this research:

<b><u>Term</u></b>	<b><u>Definition</u></b>
App	Application software that can be downloaded to a smart-phone or other portable device that can be used by the customer to undertake activities supported by the App.

Internet	<p>The publicly available world-wide system of interconnected commercial, academic, and government computer networks that transmit data using standardised communication protocols. The internet enables data and other information to be exchanged between computers.</p> <p><a href="http://searchwindevelopment.techtarget.com/definition/Internet">http://searchwindevelopment.techtarget.com/definition/Internet</a></p>
Mobile Banking	<p>The use of a mobile phone (or other mobile device e.g. PC tablet) to:</p> <ul style="list-style-type: none"> <li>- Review bank account information, initiate an outward payment and transfer funds between bank accounts using the mobile device's wireless technology.</li> <li>- Set up SMS text alert receipts for account balance information.</li> <li>- Send a SMS text request for service requests including account balance enquiry.</li> </ul> <p>Skeldon (2010) states that mobile banking "is a nebulous term that covers so many different facets of how mobile and banking are coming together".</p>
Mobile network operator	<p>Also known as a carrier service provider or wireless service provider. A telephony company that provides services for mobile phone subscribers through the deployment of equipment, most notably the radio transmitter network and the core network to support call switching and mobile management functions.</p>
NFC (Near Field Communications)	<p>A short-range high frequency wireless technology that enables the communication between devices over a distance of less than 10 cm using interacting electromagnetic radio fields aimed at consumer electronics, mobile devices and PCs.</p> <p><a href="http://www.mobileburn.com/definition.jsp?term=NFC">http://www.mobileburn.com/definition.jsp?term=NFC</a></p>
Portable devices	<p>A portable device with wireless connectivity providing Internet and local network connection. This includes mobile phones, smart-phones, PC tablets and other devices</p>

	used by consumers.
PC tablets	A wireless portable personal computer with a touch screen interface and a wireless adapter for Internet and local network connection. PC tablets are typically smaller in size than a notebook computer but larger than a smart-phone. <a href="http://searchmobilecomputing.techtarget.com/definition/tablet-PC">http://searchmobilecomputing.techtarget.com/definition/tablet-PC</a>
Smart-phone	A mobile phone with an integrated computer that supports functionality similar to those found on personal computers including wireless Internet access. Smart-phones are compact in size and only slightly bigger than a standard mobile telephone. <a href="http://www.businessdictionary.com/definition/smartphone.html">http://www.businessdictionary.com/definition/smartphone.html</a>
SMS (Short Message Service)	SMS is also known as text messaging and supports the sending and receiving of up to 160 characters on mobile devices. It is a communication service component of the GSM (Global System for Mobile) mobile communication system, although SMS is now supported on other mobile communication technologies. <a href="http://www.techterms.com/definition/sms">http://www.techterms.com/definition/sms</a>

## 1.7 Summary

This chapter provided a description to the research problem, defined the research question and described the research aims. The justification for the research was then outlined together with the methodology used along with an explanation of the key terminology used.



## **2. Literature review**

### **2.1 Introduction**

This chapter provides a review of the contemporary literature available up to the end of June 2011 that relates to mobile banking in its widest form. It then sets the context for the research question before identifying those specific areas of mobile banking that are directly relevant to the research question.

The next chapter goes on to describe the research methodology that is used along with the rationale that supports this methodology and the applicability to the research question. The research design is then described along with the research process that is adopted and concludes with a review of the ethical issues that arise from the research approach.

### **2.2 Technology Impact on Society**

According to McGinn (1991) Technology and Society have a cyclical co-dependence, co-influence and co-production upon each other and this synergistic relationship has occurred from the dawn of mankind. However, Castells (2000) claims that society is now moving into the information age, which is a historical change that is brought about by the advent of new information technologies; particularly based upon communication technologies.

According to Castells (2000) information is of central importance in determining economic productivity as communications technologies allow for globalization and the potential for rapid and asynchronous communication also changes the relationship to time. Whilst networks are not a new form of social organization, networks have become a “key feature of social morphology” (Castells, 2000, p. 5) in the information age as communication technologies, such as the Internet, allow for decentralization of operations and focusing of control. The creative power and complex interactions amongst large groups of people are now possible through the use of communications technology, providing a networking structure that was previously too cumbersome to implement. Beynon-Davies (2002) defines this as changes in social interaction, collaboration and co-ordination due to shifts in information communication methods.

Castells (2000) claims that this has resulted in a new organizational environment resulting in a shift from capability-orientation to project-orientation where resources are brought together to work on a particular project, then dispersed and reallocated when the task is complete. Consequently, this new environment requires skilled flexible workers and leads to inclusion and exclusion from the network as the people at the bottom are those who, with nothing to offer the network, are excluded. Noble (1986) suggests that “the detrimental societal aspects of technology need to be wisely managed in order to minimise the potential catastrophic consequences”.

However, society’s ability to master technologies and transform itself can be strategically decisive in a society’s evolution. Technology, whilst not being responsible for the change in society itself, embodies the capacity for change. Current theories on the social construction of technology do not reject technological determinism out of hand. The binary distinction between technological and social determination is rejected by Jasanoff (2004) and MacKenzie and Wajcman (1999) and instead they examine how society and technology shape each other.

Whilst technology development results in new products and services available to society some technologies can significantly affect the way we lead our lives whilst many innovations arise from a response to society’s changing needs. Technology can also shape the values held by a society including increased convenience or durability such as something smaller e.g. digital mobile smart-phones.

Various perspectives can be applied to the interaction between technology and society. The technical deterministic approach is well entrenched and suggests technology forms and molds society. The opposite approach is social deterministic according to Bijker and Law (1992) which suggests that technology is continually re-interpreted and given new and often unexpected trajectories.

Over the last few years mobile technology has become reliable and easily accessible. Consequently it has been adopted on a large scale with the result that according to Ling (2004) it is becoming an integral part of societal landscape in many countries.

The development of communication and information technologies has had a major impact on social attitudes with better and greater information being available than previously. Access to this information covering specific products, services or

organisations provides for more informed decisions with regard to their interactions along with the ability to distribute information quickly, efficiently and cheaply according to Walker and Johnson (2006). However, technology proliferation has resulted in significantly increased waste and pollution according to Kang and Schoenung (2005), whilst also generating a host of privacy issues e.g. Apple's i-phone location tracking (The Telegraph, 2011; Apple, 2011).

## **2.3 Technology Enabled Services**

A significant amount of research has focussed on the customer usage of technology-enabled services (Wessels & Drennan, 2010 and Kousaridas, Parissis & Apostolopoulos, 2008). Mobile banking requires the use of a portable device to access remote information banking systems and therefore can be categorised as a technology-enabled service.

According to Norman (1993) technology enabled services are not neutral in their impact and have both physical and mental side effects. Technology enabled services can also aid as much as distract and consequently individuals and society have to decide which course to take. Research of technology enabled services shows that customer usage is dependent upon a number of factors including:

- The personal capacity or self efficacy and willingness of individuals to utilise the services according to Walker and Johnson (2006). A willingness to use technology enabled services is influenced by the individual's sense of personal capacity and capability to engage with these information systems and the extent to which contact with service personnel is preferred or deemed necessary by individuals.
- The individual's perception of security, perceived risks and the technical reliability of the various information systems whilst balancing the relative advantages associated with their use according to Walker and Johnson (2006).
- The individual's perception of the availability and ease of use of the information systems according to Davis (1993). However, Davies also claims that perceived usefulness is significantly more influential than ease of use in determining usage. This perceived usefulness emphasises the importance of incorporating appropriate functional capabilities whilst simultaneously

ensuring that these capabilities and their benefits are fully communicated and understood by individuals.

- The individual's concerns and perceived risks of using these services through the information systems according to DeRuyter, Wetzels and Kleijnen (2000). Research by DeRuyter et al. shows that organisational reputation, relative advantage, and perceived risk have a significant effect on an individual's attitude and behaviour towards using e-enabled services such as mobile banking. However, relative advantage does not have a significant impact on customer trust according to DeRuyter et al.
- The degree of personal contact required by an individual and this degree of contact is driven by each individual's motivation factors according to Dabholkar and Bagozzi (2002).
- The comparative benefits and advantages understood by individuals according to Meuter, Ostrom, Roundtree and Bitner (2000).

However, Walker and Johnson (2005) claim that regular use of technology enabled services does not necessarily imply willing or satisfied use or that the individual has a sense of relationship with the service provider.

## **2.4 Customer Characteristics**

Further research was identified which indicates that a customer's character and attitude can also be factors that influence whether an individual uses a service or not according to Srijumpa, Speece, and Paul (2002) and Kuisma, Laukkanen and Hiltunen (2007). These characteristics include technical competence according to Davis (1993) and personal enjoyment including overcoming technical challenges according to Dabholkar and Bagozzi (2002).

Once an individual has identified they will obtain a benefit from using mobile banking they then require the motivation to undertake their mobile banking enquiry. In addition, there has to be a willingness to obtain the knowledge in how to use their mobile phone along with LTSB's mobile banking information systems in order to complete their enquiry or transaction. Additionally, customers also need the competence and desire to overcome any technical challenges that arise whilst undertaking mobile banking services according to Luarn and Lin (2005).

An individual's intention to use self-service technology (SST) is driven by multiple, hierarchical attitudes and characteristics according to Curran, Meuter and Surprenant (2003). In addition to the direct effects of attitudes toward specific SSTs, research undertaken by Curran et al. confirms that higher order global attitudes toward service technologies influence a customer's intentions to use SST. In addition, heavy SST users rely more on attitudes toward specific SSTs than do light SST users.

Meanwhile, Bolton and Saxena-Iyer (2009) identify that customer participation directly influences service quality and behavioural outcomes including service usage, repeat behaviour and word-of-mouth. Whilst Rotchanakitumnuai and Speece (2003) identify that those customers already using Internet banking have more confidence that the underlying information system is reliable and secure. Whereas non-Internet banking users are much more service conscious and have no trust in remote financial transactions but also tend to have a more negative attitude or characteristic towards adoption of SST.

However, Liljander, Gillberg, Gummerus and van Riel (2006) identify that an individual's mental readiness to accept new technologies is a factor affecting an individual's attitude towards SSTs and their adoption behaviour. The individual's mental readiness comprises four characteristics of innovativeness, optimism, discomfort and insecurity but only innovativeness and optimism characteristics formed unique individual dimensions according to research undertaken by Liljander et al. Optimism explained consumer behaviour towards SSTs best, whereas innovativeness had only a marginal effect on attitudes towards using the Internet or a mobile phone according to the research undertaken by Liljander et al.

As LTSB's customers are under no obligation to use their mobile banking service they consequently only do so for a perceived benefit that they obtain from using this service.

## **2.5 Research Journals**

Contemporary mobile banking literature and current research covers a very broad spectrum of inter-related mobile banking aspects including country specific, customer, change, technology, risk, product delivery, legal and regulatory articles.

As a result, research articles on mobile banking can be found across a range of journals including:

- The Banker.
- Community Banker.
- US Banker.
- Banking Systems.
- Banking Technology.
- Electronic Commerce.
- Business Process Management Journal.
- Information Systems.
- International Journal of Retail and Distribution Management.

In addition, further mobile banking research articles on very specific topics can be found in Change and Technology journal publications including Banking Technology, Business Process Management, and Research & Applications.

## **2.6 Literature Mapping**

The following literature mapping diagram (Figure 2) provides a perspective of how the various articles that are covered within existing literature can be categorised and identifies those areas that are considered within this research.

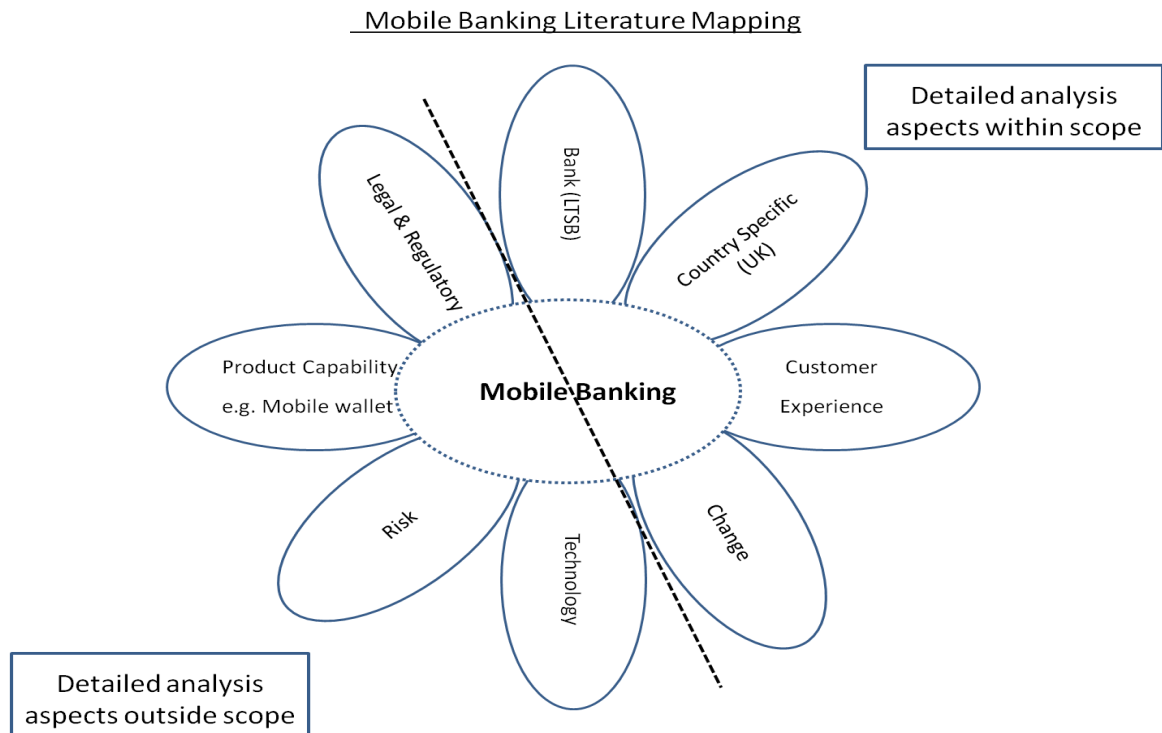


Figure 2 – Literature Mapping

Mobile banking is currently going through a radical evolution with various payment schemes (e.g. VISA and MasterCard), mobile network operators (e.g. Orange and O2), mobile phone manufacturers (e.g. HTC and Nokia) and major organisations (Google and Microsoft) all developing or launching mobile payment services.

However, as LTSB is predominantly a UK based bank this mobile banking research focuses on LTSB's UK mobile banking service. Therefore, all other aspects of mobile banking that do not apply to LTSB's UK based mobile banking service are not considered within this research.

This research is based upon undertaking customer market research and therefore the customer aspects of Behaviour and Attitude are an integral part of this research along with aspects of change as they relate to customers ability to use LTSB's mobile banking services. Whilst other aspects of mobile banking including Technology, Risk, Product capability, Legal and Regulatory are an integral part of mobile banking these are not considered within this research in order to keep this research tightly focussed and therefore these other aspects remain outside scope.

## 2.7 Research Models

A review of the current contemporary literature on mobile banking and all related aspects shows that various models and theories have been used. The various models that have been used are due to the diverse nature of mobile banking and are a result of the numerous inter-related aspects that form part of the mobile banking sphere. The research models that apply to the various aspects of mobile banking include the following:

### 2.7.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is an information systems theory model developed by Davis (1993) that uses 2 constructs: Perceived Usefulness and Perceived Ease of Use. The theoretical basis of the TAM was Fishbein and Ajzen's (1975) Theory of Reasoned Action.

TAM demonstrates that a number of factors influence a users' decision about how and when they will use information systems as shown in the following diagram (Figure 3):

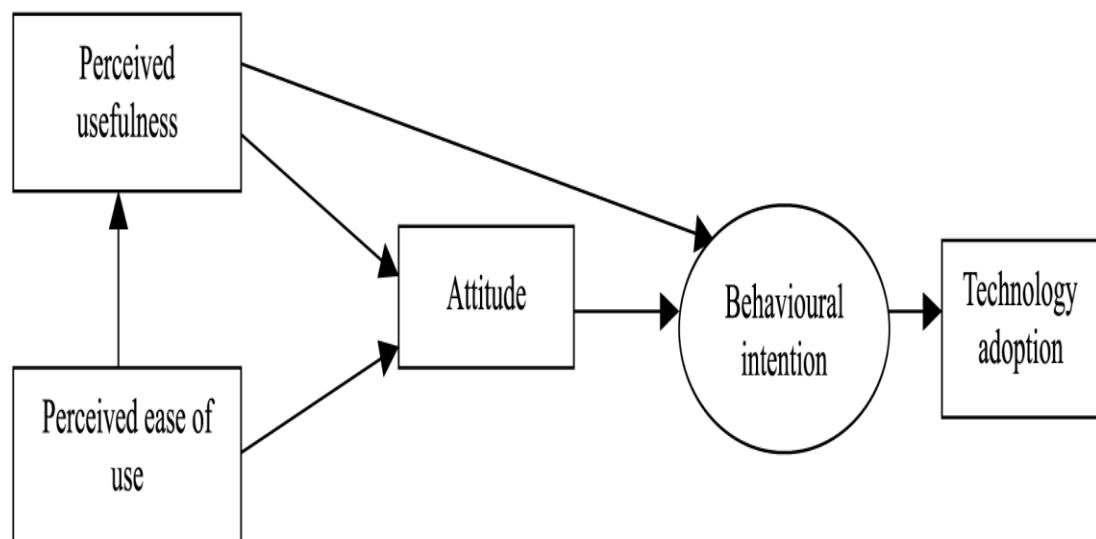


Figure 3 – Technology Acceptance Model

Customers who use LTSB's mobile banking service have to consider a number of inter-related aspects for ease of use which includes the ease of use of their mobile phone (or smart-phone) along with ease of use of LTSB's information systems which deliver the mobile banking service.



Mobile banking research undertaken by Mattila (2003) and Branca (2008) identifies that a number of demographic influences including age may be a determinant factor in the customer's perception on ease of use and therefore this research will explore if age is a factor in using LTSB's mobile banking service. Meanwhile, further mobile banking research undertaken by Riquelme and Rios (2010) and Branca (2008) identifies that a customer's gender may be a determinant factor in the perception on ease of use and therefore this piece of research explores if gender is a factor in using LTSB's mobile banking service.

Understanding if ease of use, age and gender are determinant factors for customers using LTSB's mobile banking services will assist LTSB in improving both customer adoption and customer usage of their mobile banking service.

### 2.7.2 Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour model (TPB) is a psychology theory proposed by Ajzen (1985) that covers the link between attitudes and behaviour and was developed from the theory of reasoned action focussing on the various attitude theories proposed by Martin Fishbein together with Icek Ajzen in 1975.

TPB provides a framework that sits within the information systems arena and considers why people perform the behaviours they do as shown in the following diagram (Figure 4):

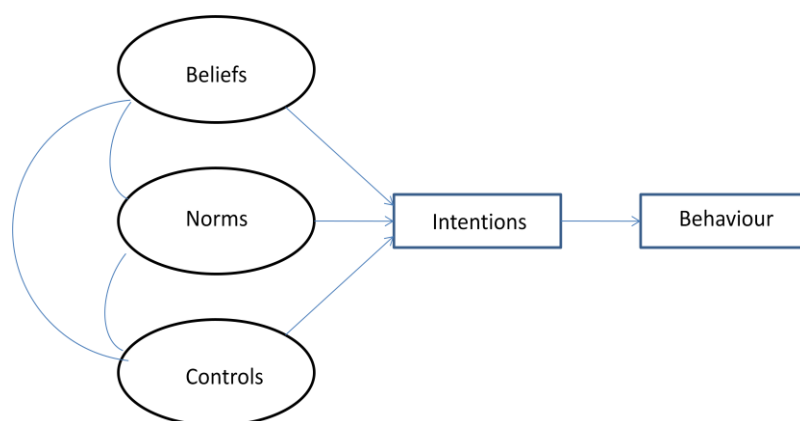


Figure 4 – Theory of Planned Behaviour Model

Mobile banking requires a customer to use LTSB's information systems which can be categorised as a technology-enabled service.

Understanding if a customers' planned behaviour is a determinant factor for customers using LTSB's mobile banking services will assist LTSB in improving both customer adoption and customer usage of their mobile banking service.

### 2.7.3 End-User Computing Satisfaction (EUCS)

The End-User Computing Satisfaction model (EUCS) is an information systems model proposed by Doll and Torkzadeh (1988) that explains the formation process of user satisfaction from both the expectation and desire perspectives. EUCS demonstrates that a number of factors influence end-user satisfaction with an information system as shown in the following diagram (Figure 5):

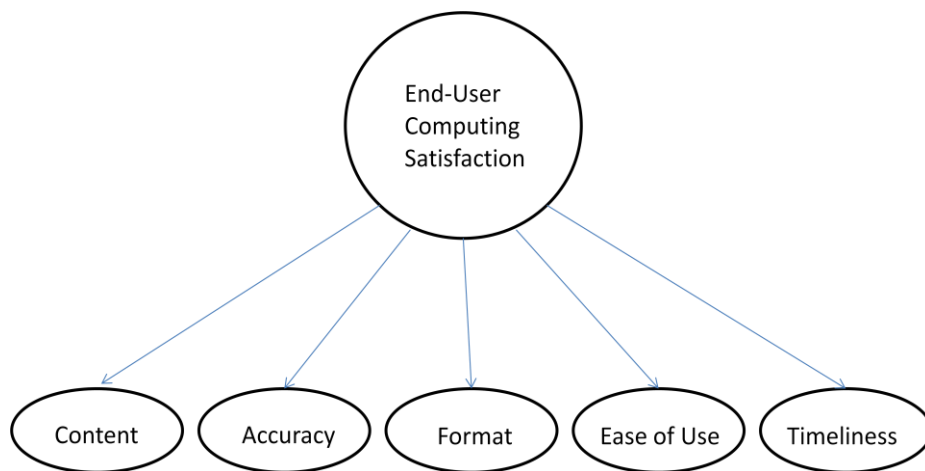


Figure 5 – End User Computing Satisfaction Model

Customers who use LTSB's mobile banking service utilize information systems provided by their mobile network operator and LTSB which is categorised as end-user computing within this research.

Previous research undertaken by Pikkarainen, Pikkarainen, Karjaluoto and Pahnla (2008) using the EUCS model identifies that end-user computing satisfaction is a determinant factor in customers use of online banking services.

Understanding if end-user computing satisfaction is a determinant for customers using LTSB's mobile banking service will assist LTSB in improving both customer adoption and customer usage of their mobile banking service.

#### 2.7.4 Diffusion of Innovations Theory (DIT)

The Diffusion of Innovations Theory model (DIT) is an information systems model proposed by Rogers (1976) that explains the spread of innovation, ideas and technology through culture. The DIT model demonstrates that customer adoption of innovation is affected by a number of factors including the perceived usefulness of and advantages offered by the specific innovation, its visibility, trialability and ease of use and its compatibility with users according to Mahajan, Muller and Bass (1990) as shown in the following diagram (Figure 6):

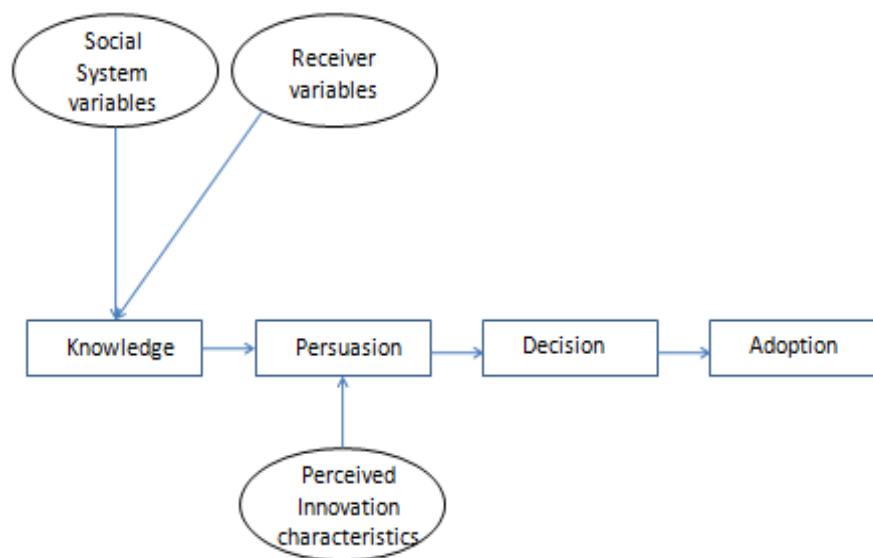


Figure 6 – Diffusion of Innovations Theory Model

Meanwhile, a study undertaken by Wang, Lin and Luarn (2006) using Luarn and Lin's (2005) mobile banking acceptance model concludes that perceived usefulness is a significant factor in customer's intention to use mobile banking as shown in the following diagram (Figure 7). However, Koenig-Lewis, Palmer and Moll's (2010) study of the take up of mobile banking services by young consumers in Germany identified that perceived usefulness was one of a number of significant factors in the adoption of mobile banking services.

Figure 7 – Mobile Banking Acceptance Model (Wang, Lin and Luarn, 2006)

Understanding if a customers' perceived usefulness is a determinant factor for customers using LTSB's mobile banking services will assist LTSB in improving both customer adoption and customer usage of their mobile banking service.

#### **2.7.5 Customer Volition**

Whilst the above models were developed many years prior to the development of the internet and mobile banking, further studies including Luarn and Lin (2005) have shown that the TAM still has a high degree of applicability to the current environment and mobile banking specifically. In addition, it has a high degree of predictive power as proven by other research including Amin, Baba and Mohammad (2008). However, a significant limitation of the TAM is that it assumes customer volitional use meaning that there are no barriers stopping a customer using the information system to access the service should the customer choose to do so.

Nevertheless, mobile phones and smart-phones in particular are complex consumer devices that provide different functions and capabilities whilst each mobile phone manufacturer integrates the various customer functions and capabilities in different ways. Therefore, mobile phones, and particularly smart-phones with their complex functionality, may create barriers to customer usage generally and may be a barrier to using LTSB's mobile banking services specifically.

Understanding if customer volition is a determinant factor for customers using LTSB's mobile banking services will assist LTSB in improving both customer adoption and customer usage of their mobile banking service.

### 2.7.6 Conceptual Model

As identified earlier in this chapter there are a number of research models that can be applied to this research given the breadth of scope that mobile banking covers. However, this research is focused on Behaviour and Attitude of customers using LTSB's mobile banking service and no previous research has been identified by the researcher that addresses these specific aspects. The conceptual model used in this research focuses on the types of customers that use LTSB's mobile banking service, customer resistance that restricts wider usage (Attitude) and those specific LTSB mobile banking services used (Behaviour).

Amin et al. (2008) claim that the TAM is a more specific model and covers Behaviour and Attitude whilst the TRA and the other models are more generic. Nysveen et al. (2005), Luarn and Lin (2005), Pikkarainen et al. (2006), and Wang et al. (2006) also claim that the TAM is highly predictive with information system devices making it easy to apply to different research situations. Furthermore, Guriting and Ndbusi (2006), Luarn and Lin (2005) and Wang et al. (2006) also claim the TAM provides an improved understanding between the constructs of Behaviour and Attitude; both of which are an integral part of this research.

As this research explores LTSB's mobile banking service, the types of customer that use, or may use LTSB's mobile banking service together with use of information system devices, the TAM forms the main basis for the conceptual model. Aspects of other models are used to explore specific characteristics of mobile banking but this research predominantly uses the TAM as the TAM specifically covers Behaviour and Attitude along with the predictive nature of this model according to Luarn and Lin (2005) and Wang et al. (2006).

The conceptual model used within this research has a number of constructs which are as follows:

- Perceived usefulness and ease of use constructs which explore customer intentions according to Wang et al. (2006).
- Volition and awareness constructs which explore customer actions according to Haggard (2008) and Sheeran (2005).

The conceptual model forms the basis for the market research questions that are developed and these market research questions explore if specific aspects of Behaviour and Attitude are factors affecting customers using LTSB's mobile banking service or planning to use LTSB's mobile banking service.

Understanding the factors that may influence customers using or planning to use LTSB's mobile banking service will allow LTSB to improve their mobile banking service to attract customers, increase usage and thereby reducing operational costs. The following conceptual model (Figure 8) shows these various constructs used in this research:

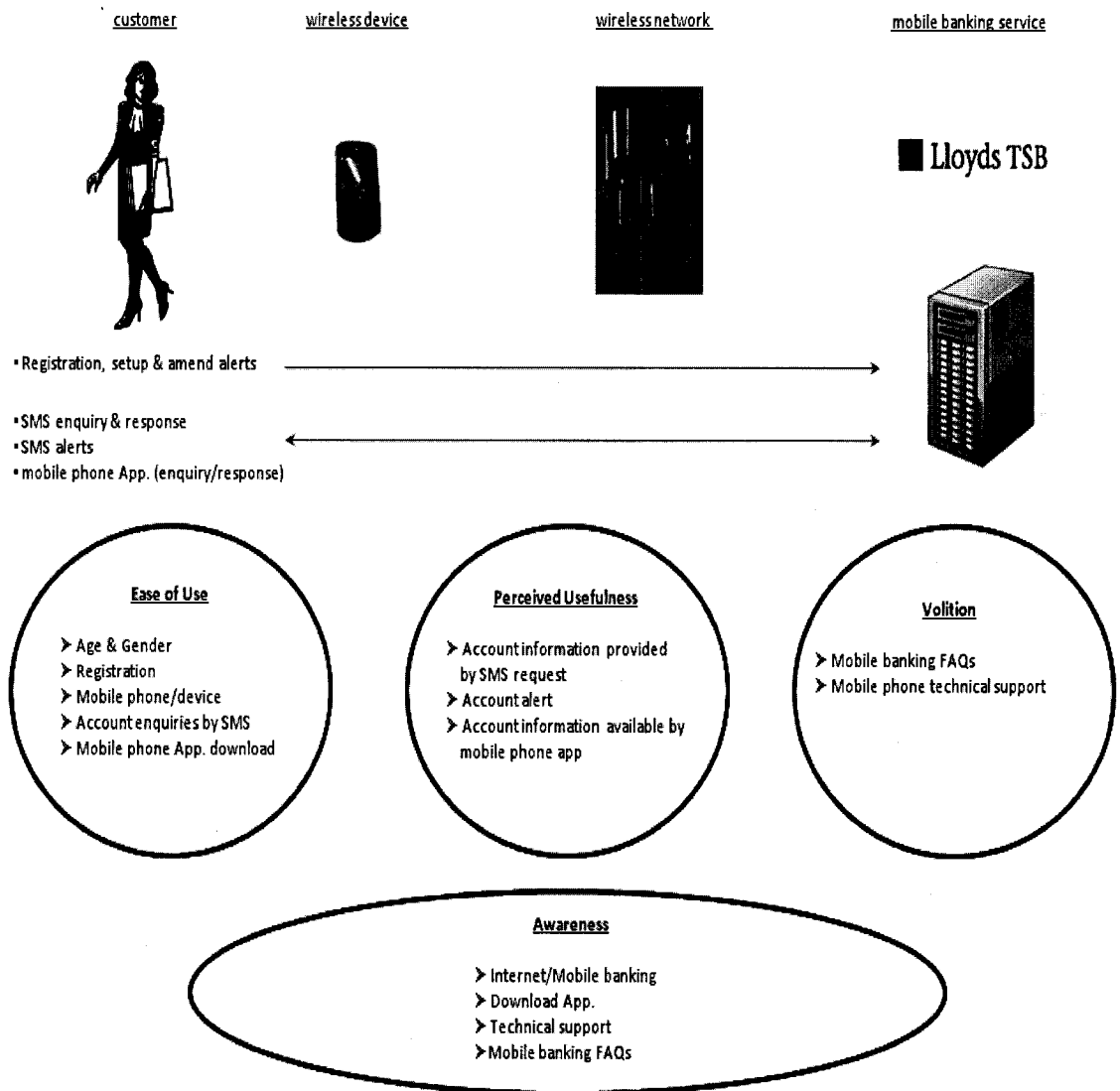


Figure 8 – Conceptual Model

## **2.8 Summary**

This chapter has identified that there are a number of theoretical models that can be applied in the evaluation of mobile banking services. It identified that there are a significant number of aspects within these models which have not been validated against mobile banking in the UK. Consequently this research aims to validate a number of these aspects against LTSB's mobile banking service in order to identify what improvements LTSB can make to their mobile banking service to increase both customer adoption and customer usage.

The next chapter identifies the methodology that will be used for this research along with the research philosophy and the research strategy that is used. It then goes on to cover the research design, the research process followed and concludes with ethical considerations.

### 3. Methodology

#### 3.1 Introduction

This chapter describes the research philosophy applied to address the research objective and the associated aims along with the rationale for the selection of the philosophy. It then goes on to describe the data collection method along with the data analysis that is subsequently undertaken on the market research answers obtained. This chapter then describes the ethics which apply to this research before concluding with a summary.

#### 3.2 Research Philosophy

There are two primary research philosophies - positivism and phenomenology. Easterby-Smith, Thorpe and Jackson (2008) suggest that the key features of the two philosophy paradigms can be described as follows:

	<b><u>Positivism</u></b>	<b><u>Phenomenology</u></b>
<b>Basic beliefs</b>	World is external and objective.	World is socially constructed and subjective.
	Independent observer.	A part of what is observed.
	Science is value-free.	Science is driven by human interests.
<b>Researcher</b>	Focuses on facts.	Focuses on meanings.
	Looks for cause/effect and fundamental laws.	Tries to understand what is happening.
	Reduces phenomenon to simplest elements.	Looks at the totality of each situation.
	Formulates hypotheses and test them.	Develops ideas through data orientation.
<b>Preferred method</b>	Operationalises concepts to allow measurement.	Uses multiple methods for establishing alternative views of occurrence.
	Uses large samples.	Small samples analysed.

(Source: Easterby-Smith et al., 2008)

In order to address the research aim through the use of a consumer market research questionnaire means that the phenomenological paradigm applies to this research.



Hussey and Hussey (1997) claim that a phenomenological paradigm produces:

- Qualitative data which is consistent with the consumer market research approach used.
- Rich and subjective qualitative data although the data gathering process is subjective due to the participation of the researcher in producing the research questions, undertaking the consumer market research and analysing the subsequent information obtained.

However, according to Fisher (2010) there are two perspectives where one addresses our knowledge about the external world whilst the other addresses the world itself. Fisher goes on to claim that phenomenology is in a position that sits between these two perspectives as it explores the processes that groups and societies use to make sense of the world based upon the notion that the real world is subject to interpretation of human thought.

### **3.3 Research Strategy**

#### **3.3.1 Justification for the selected paradigm and methodology**

Research strategy can be based upon an empirical approach, non-empirical approach or a combination of both, although Hussey and Hussey (1997) define empirical evidence as “data based on observation or experience”. As this research uses data resulting from information gained from a questionnaire this research uses the empirical approach.

A research strategy can use a quantitative approach, a qualitative approach or a combination of both.

Myers (1997) identifies that qualitative data sources can include observation, participant observation (fieldwork), interviews and questionnaires and as this research seeks to understand individuals and their specific actions this research uses the qualitative approach.

The phenomenological research paradigm is subjective as it involves real world circumstances as well as the involvement of the researcher. This subjective approach results in various influences and limitations affecting all aspects of the research including the subjectivity of the questionnaire, interpretation of the data gathered, subsequent analysis and the research findings.

The researcher acknowledges various influences and limitations within this piece of research on LTSB's mobile banking service and seeks to minimise these.

### **3.3.2 Rejected methods**

A number of alternative research methods have been considered to address the research aim and have been rejected which include:

- Observation techniques. The researcher had no access to existing LTSB customers from which to undertake observations. Furthermore, ethical considerations preclude use of this approach as participants, including the researcher, may feel uncomfortable with the lack of privacy relating to personal bank information (Gilbert, 2003).
- Focus group discussions. The researcher had no access to existing LTSB customers from which to formulate a discussion group. Whilst, Morgan (1997) states that focus groups produce qualitative data which will not provide the required insight to meet the research aims.
- Internet based Questionnaire. Participants in this research have to be LTSB UK customers and it is highly unlikely potential participants would locate the questionnaire according to Joinson (1999) resulting in a very poor response rate producing meaningless results.
- Questionnaire distribution and response by email. The researcher had no access to existing LTSB customers from which to distribute an email questionnaire. In addition, receipt of completed emails can lead to the identification of the participant which is inconsistent with anonymity according to Easterby-Smith et al. (2008).
- Questionnaire issued with a pre-paid return envelope. Previous studies have shown that face to face market research obtains a significantly improved customer participation rate according to Yu and Cooper (1983).
- Customer incentives for completed questionnaires. This approach is inconsistent with the researcher's ethical stance whilst the offer of a reward leads to the identification of participants which is inconsistent with anonymity as mentioned by Easterby-Smith et al. (2008).
- Use of open questions. This approach allows participants to answer questions in their own way according to Fink (2003) which results in qualitative data being produced which is inconsistent with the research aims.

### **3.4 Research design**

The research is based upon assessing LTSB's existing mobile banking service compared to a theoretical laboratory setting (Churchill & Iacobucci, 2010) and uses a consumer market research questionnaire. The questions are designed to obtain qualitative data on various aspects of LTSB's mobile banking service from which subsequent analysis can be undertaken (Miles & Huberman, 1994). However Fink (2003) states that the choice of survey data analysis is dependent upon the type of data along with the number of dependent and independent data variables.

Meanwhile, Saunders et al. (2009) state that qualitative data can be analysed by themes and relationships in a deductive approach. Consequently a deductive approach will be used within this research to identify ways that LTSB can improve customer adoption and usage of their mobile banking service.

Whilst there are various research models that can be applied to this research, the TAM is more appropriate to this research due to the following:

- More specific than the TRA and the other models according to Amin et al. (2010).
- High predictive power with information system devices making it easy to apply to different research situations according to Nysveen et al. (2005); Luarn and Lin (2005); Pikkarainen et al. (2006) and Wang et al. (2006).
- Improved understanding between the constructs of this research (Behaviour and Attitude) according to Guriting and Ndbusi (2006); Luarn and Lin (2005) and Wang et al. (2006).

#### **3.4.1 Design of Instrument(s)**

According to Fishbein and Ajzen (1975) a customer's attitude is a concept that is used to understand and predict people's reaction to change and how behaviour can be influenced. Consequently this research explores customer's character and attitude to using LTSB's mobile banking services and covers ease of use of mobile phones including smart-phones and ease of use of LTSB's mobile banking service.

The concept of measuring attitude can be complex and difficult and consequently there are a number of different measuring instruments that have been developed to assess attitude.

McIver and Carmines (1981) claim that “scaling is the science of determining measuring instruments for human judgment” whilst scaling models are distinguished according to whether they are intended to scale persons or stimuli or both. The 3 scaling methods are:

- Thurstone scale evaluates the stimuli related to designated attributes rather than the individuals according to Togerson (1958). Whilst Neuman (2000) states that Thurstone scaling is based on comparative judgments which requires the participant to make a choice from just two possible answers for a large number of statements about an issue or object. The Thurstone scale is used for research questions where the participant’s response requires a definitive answer.
- Guttman scale is a method in which both subjects and stimuli can be assigned scale values according to McIver (1981) and Li, Cheng, Wang, Hiltz and Turoff (2001) and determines if a relationship exists within a group of items. The Guttman scale is not appropriate for this research as it does not provide enough variation of feelings and perceptions.
- Likert scale is a subject-centred method with questions scored often using a five-point scale which according to Dumas (1999) is the most common scale for assessing participants' opinions. Tittle and Hill (1967) claim that the Likert scale tends to be more reliable than other scales although Gal et al. as cited by Page-Bucci (2003) suggests that Likert type scales do not reveal much on the underlying reason behind each answer. Johns (2011) suggests that participants construe the response scale in terms of evenly-spaced points whilst Dyer (1995) states that these attitude scales simply reflect the participant’s perception of the truth based upon their feelings at that moment. However, Page-Brucci (2003) suggests that most of these reviews occurred prior to 1993 and the resultant rapid pace of technological progress may have resulted in changes to the reasons for measuring attitudes.

Using a Likert scale with closed questions can be used to generate statistical measurements of people's attitudes and behaviours according to Saunders et al. (2009).

Previous research that investigated the use of coarsely grained scales has indicated that the accuracy of statistics calculated on such scales is not compromised as long as the scales have about 5 or more points according to Rasmussen (1989). This research identifies a number of questions that assess customer's behaviour with LTSB's mobile banking service and therefore uses an evenly balanced number of choices on the Likert scale to help avoid the problem of bias whilst improving reliability.

The research design uses pre-coded (closed) questions with multiple choice answers which according to Silverman (1993) claims to provide a greater degree of consistency and applicability of the results. Johns (2011) claims that there is always a trade-off between convenience (for both researchers and participants) and data quality in a survey design which the researcher acknowledges.

### **3.4.2 Research Areas & Questions**

The following research questions have been constructed to explore the Behaviour, Attitude and Usage of LTSB's mobile banking service consistent with the research aims.

#### ➤ **Customer characteristics**

- **Are you a LTSB customer?** Used to determine if the participant is a LTSB customer and not just another bank's customer.
- **Do you have a LTSB current account?** Used to determine if the participant is a LTSB current account customer on which LTSB's mobile banking service is provided.

The above are screening questions which enable the researcher to correctly identify eligible participants according to Edmunds (2000).

- **Gender?** Previous mobile banking research undertaken by Riquelme and Rios (2010) and Branca (2008) identifies that a customer's gender may be an influence in both their Behaviour and Attitude. The gender influence on mobile banking is also substantiated by market research undertaken by MasterCard (2011) which shows 51% of men but only 40% of women would be at ease using mobile payments.

- **Age Group?** Previous mobile banking research undertaken by Mattila (2003) and Branca (2008) identifies that a number of demographic influences including age may be a factor in the customer's Behaviour and Attitude. Age has also been identified as an influence by MasterCard (2011) in their mobile banking research which shows 63% of 18 to 34 year olds would be at ease using their mobile phones to make purchases, compared to just 37% of those aged 35 and over.

Age grouping answers are provided along with the option to not disclose to minimise any participant embarrassment. Age groupings selected are generally those used by the American Marketing Association (2008) to provide consistency with other US based mobile research allowing comparability of the analysis across the various pieces of research including Nysveen, Pedersen & Thorbjornsen (2005), Laforet & Li (2005), Gan, Clemes, Limsombunchai & Weng (2006), Poon (2008) and Kim, Shin & Lee (2009).

- **Do you have regular access to a PC or an Apple Mackintosh (Mac)?** Used to explore if there are any patterns of Behaviour that can be detected for customers who have or do not have regular access to PC or a Mac. The researcher acknowledges that the participant's own perspective of the meaning of the word 'regular' applies to the answer provided.
- **What type of mobile phone do you have?** Used to explore if there are any patterns of Behaviour influence that can be detected for the mobile device used by the customer and the various mobile banking services utilised by that customer (Koenig-Lewis, 2010). The researcher acknowledges that the participant's own perspective of the meaning of the word 'smart-phone' applies to the answer provided.
- **Reasons for you not using LTSB's mobile banking service?** Used to explore if there are any patterns of Behaviour or Attitude that can be detected for customers not using LTSB's mobile banking service.

- **Will you use LTSB's mobile banking service in future?** Used to explore if there are any patterns of Behaviour or Attitude that can be detected for customers who may use LTSB's mobile banking service.

➤ **Awareness**

According to Haggard (2008) and Sheeran (2005) an awareness construct can be used to explore customer actions and consequently the following questions are developed to investigate this specific aspect:

- **Are you aware that LTSB offers Internet banking?** Used to explore if there are any patterns of Behaviour that can be detected that relate to customer knowledge of LTSB's Internet banking service on which LTSB's mobile banking service operates.
- **Are you aware that LTSB offers a mobile banking service?** Used to explore if there are any patterns of Behaviour that can be detected that relate to customer knowledge of LTSB's mobile banking service.
- **Are you aware that LTSB provides a download application for mobile phones?** Used to explore if there are any patterns of Behaviour that can be detected that relate to customer knowledge of LTSB's mobile phone application download service.
- **Are you aware of LTSB's web site Frequently Asked Questions (FAQs) on mobile banking?** Used to explore if there are any patterns of Behaviour that can be detected that relate to customer knowledge of LTSB's mobile banking FAQs on LTSB's website.
- **Are you aware that LTSB offers mobile banking technical support by phone?** Used to explore if there are any patterns of Behaviour that can be detected that relate to customer knowledge of LTSB's mobile banking technical helpline.

➤ **Behaviour**

According to Haggard (2008) and Sheeran (2005) a behaviour construct can be used to explore customer actions and consequently the following questions are developed to investigate this specific aspect:

- **Which LTSB mobile banking services have you used?** Used to explore if there are any patterns of Behaviour that can be detected for customer usage of the separate mobile banking functions provided by LTSB.
- **Have you downloaded LTSB's mobile phone application?** Used to explore if there are any patterns of Behaviour that can be detected for customers downloading LTSB's mobile banking application to their mobile phone.
- **Have you ever accessed LTSB's mobile banking FAQs?** Used to explore if there are any patterns of Behaviour and Attitude that can be detected for customer access to mobile banking FAQs on LTSB's website. The researcher acknowledges that the answer is based upon an activity that may have occurred many months beforehand and is therefore based upon the participant's memory recall.
- **Have you ever used LTSB's mobile banking technical support phone service?** Used to explore if there are any patterns of Behaviour and Attitude that can be detected for customer usage of LTSB's mobile banking technical helpline. The researcher acknowledges that the answer is based upon an activity that may have occurred many months beforehand and is therefore based upon the participant's memory recall.

➤ **Ease of Use**

According to Wang et al. (2006) an ease of use construct can be used to explore customer intentions and consequently the following questions have been developed to investigate this specific aspect. However, the researcher acknowledges that the participant's own perspective of the meaning of the word 'easy' applies to the answers to these questions.



- **How easy do you find using your mobile phone/device?** Used to explore if there are any ease of use patterns of Behaviour that can be detected for customer usage of their mobile phone.
- **How easy is it to use LTSB's mobile phone application?** Used to explore if there is any ease of use patterns of Behaviour that can be detected for customer use of LTSB's mobile phone application.

➤ **Usefulness**

According to Wang et al. (2006) a usefulness construct can be used to explore customer intentions and consequently the following questions have been developed to investigate this specific aspect. The researcher acknowledges that the participant's own perspective of the meaning of the word 'useful' applies to the answers to these questions.

- **Did the phone call to LTSB's mobile banking technical support service resolve the problem?** Used to explore if there are any usefulness patterns of Behaviour that can be detected for customer phone calls to technical support. The researcher acknowledges that the answer to this question is reliant upon an activity that may have occurred many months beforehand and any answer is therefore based upon the participant's memory recall.
- **Did accessing LTSB's mobile banking FAQs resolve the issue or answer the enquiry?** Used to explore if there are any usefulness patterns of Behaviour that can be detected for customers who have accessed mobile banking FAQs. The researcher acknowledges that the answer to this question is reliant upon an activity that may have occurred many months beforehand and any answer is therefore based upon the participant's memory recall.
- **How useful do you find LTSB's mobile banking service?** Used to explore if there are any usefulness patterns of Behaviour that can be detected for LTSB's mobile banking services.

### **3.5 Research Procedures/Administration of Research Instruments.**

The research constructs identified earlier form the basis upon which the specific questions are developed for the consumer market research based upon the ethical deontological view. However, according to Silverman (2010) the researcher is the most important instrument in qualitative research as the researcher can significantly influence the study dependent upon their assumptions, ethics and approach and this influence can be both positive and negative. Consequently the researcher is very careful to ensure that his own views of LTSB's mobile banking service are not reflected in this research.

Saunders, Lewis and Thornhill (2009) suggest that initial pilot consumer market research is undertaken. The researcher carries out a pilot exercise outside LTSB's Chester branch on 3rd June 2011. The pilot questionnaire approach quickly identified that the individuals using the branch were in the senior age groupings and a cross-section of participants was not going to be available using this approach. Consequently further market research was undertaken in the Chester area on several days and at different times in June and July 2011 to obtain a more generic cross-section of participants in this research.

This consumer market research is based upon convenience sampling where participants are requested to assist in the market research. The adopted approach arose as a result of LTSB declining to allow this market research to be undertaken within their branch premises.

The actual consumer questions have to be simple and precise according to Dillman (2007), to increase the validity of the responses and the subsequent analysis. Therefore the questions have pre-coded answers to:

- Minimise any customer ambiguity in the understanding of the question.
- Minimise any ambiguity in understanding by the researcher of the answer provided.
- Ensure that the customer is able to complete this questionnaire in a short period of time in order to retain the customer's interest to ensure completion of the questionnaire.

The researcher operates as a senior interim change delivery director within the retail financial services market and has a keen interest in new product and service developments using the latest technological advances. This market research is undertaken at dates and times that are convenient to the researcher. However, the researcher may choose different days of the week and different times of day for undertaking this consumer market research in order to endeavour to obtain a different group of participants.

The questionnaire wording is constructed using the checklist questionnaire recommendations as advised by Saunders et al. (2009) prior to the questionnaire being assessed by a couple of friends. This draft questionnaire review is consistent with Saunders et al. (2009) who claim that this approach assists in ensuring that participants have no problem answering the questions but also that there will be no subsequent problems in recording the data obtained.

In order to encourage a greater participation the researcher wore a University of Chester tea-shirt and a badge that identified himself as a MBA student to differentiate himself from other market researchers and to encourage potential participant empathy with the educational aspects.

The pilot exercise outside LTSB's branch in Chester is invaluable as it:

- Ensures validity and reliability of the responses according to Saunders et al. (2009).
- Identifies that LTSB's branch customers are predominantly in older age groupings and therefore more likely to prefer face to face transactions and less likely to be suitable participants for this research.
- Identifies that a number of the detailed research questions are inappropriate.

Following the pilot exercise, a large number of research questions were removed and replaced with a single more generic question on the usefulness of LTSB's mobile banking service. In addition, a more generic location in Chester was selected for continuing the questionnaire with participants on subsequent dates in June 2011.

At the start of each questionnaire completion the researcher initially explains to the participant who they are, provides a brief explanation of the research purpose and asks if the participant can spare just a few minutes to answer a number of simple questions related to LTSB and their mobile banking service. The researcher then explains that no personal information is requested as part of the survey, how the data will be collected, stored, analysed and retrieved and that the results of the subsequent analysis will only be available in summary form.

If the participant does not have a LTSB current account then the researcher terminates the questionnaire completion, thanks the participant for their time and these results are not captured. Otherwise the participants are now identified as LTSB current account customers and any information is then collected for subsequent analysis. Where the resultant volume of customer research data obtained is not large, the reliability of the research is low although the research validity is high according to Foddy (1994).

The research questionnaire is prepared using Microsoft's Office 2007 Word application as Word produces professional looking documents including questionnaires. The data from the completed questionnaires is captured in Microsoft's Office 2007 Excel application from which subsequent data analysis is undertaken whilst also providing visualisation of the resultant data.

The appropriate analytical methods are evaluated using Fink's (2009) guidelines and once all the customer data is captured, a cross-check is then undertaken against the source documents to ensure that no data capture errors occurred.

The research data is captured into Excel which allowed the researcher to quickly conclude that further research data would not add significantly to the research results given the findings available. Consequently a significantly smaller amount of research data is collected than originally expected from which the subsequent findings are presented with an analysis of the data obtained.

### **3.6 Ethical Considerations**

According to Saunders et al. (2009) research ethics is "the appropriateness of your behaviour in relation to the rights of those who become the subject of your work, or are affected by it". However, Cooper and Schindler (2008) define ethics as the

“norms or standards of behaviour that guide moral choices about our behaviour and our relationship with others”.

Consequently research ethics applies from the initial thoughts on how the research topic is chosen, through all subsequent aspects that lead to the research conclusion including research design, questionnaire formulation, consumer research access, data collection, storage and subsequent analysis.

Various ethical issues are considered and addressed throughout all aspects of this research as the researcher’s ethics follow the deontological view where results should not be based upon unethical research as claimed by Cozby (2009).

According to Jankowicz (2005) information obtained through research is often judgemental and value-laden whilst Saunders et al. (2009) claim that ethical problems start when the researcher seeks access to the organisation. However, as LTSB declined to participate in this research any ethical issues related to this do not apply to this research. Additionally, the researcher is not an employee of LTSB, and therefore any employee ethical aspects similarly do not apply to this research.

Fisher (2010) claims that informed consent is one key ethical issue for researchers to consider along with not revealing sources. Whilst Saunders et al (2009) claim that individuals have a right to privacy and should not feel pressurised or coerced into participating. The researcher initially ensures that informed consent is obtained by approaching potential participants and requesting them to assist in providing answers to the questions within the questionnaire. The researcher also ensures that the participants are fully aware of the purpose of the questionnaire and that any data the participants provide will be treated confidentially.

The questionnaire is designed to ensure the anonymity of the participants whilst the administration of this research instrument by the researcher ensures:

- Participation is voluntary.
- Anonymity of the participants.
- Participants are aware that the researcher is a University of Chester MBA student.
- No identifying personal information is requested.
- Only summary data will be available.

The researcher carefully considers and balances the amount of time that can be taken explaining the background and the ethical aspects against the participant's willingness to provide their time to complete the research questionnaire as claimed by Bordens and Abbott (2010). As a result of the above, a significant number of potential participants declined to assist in this research.

### **3.7 Summary**

This chapter reviewed the research methodology, research philosophy and research strategy and described how these were used in this research with supporting rationale before outlining the alternative methods that were rejected. The research instrument was then described along with the research procedures that were adopted for this research with their applicability to the proposed approach followed by a review of the ethical considerations that applied.

The next chapter provides details of the research findings related to each of the research questions.

## 4. Findings

### 4.1 Introduction

This chapter describes the research findings from each of the research questions but does not analyse these findings or draws conclusions.

The next chapter critically analyses the methodology adopted along with the issues and problems encountered undertaking this research. It then describes the analysis of the findings provided by this research within the context of the body of literature identified in chapter 2 before drawing conclusions and finalises with a description of the main limitations of this study.

### 4.2 Participant Results

Figure 9 below shows that 17 of the participants (89%) are aged 44 years or less whilst only 2 of the participants (11%) are aged between 45 and 64 and no participants are aged over 64 but all participants are willing to indicate their age range. Whilst 10 participants are male (53%) with 9 participants female (47%), there are only 2 male participants (29%) in the 'up to 24' age group, 5 male participants (100%) in the 25 to 34 age group and no male participants in any age group 45 years old and over. Conversely, there is 1 female participant (100%) in the 45 to 54 age group and 1 female participant (100%) in the 55 to 64 age group.

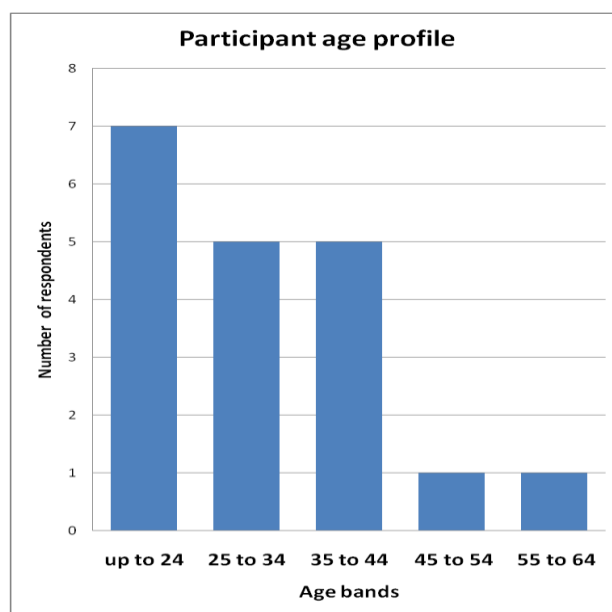


Figure 9 – Participant Age profile

Figure 10 below shows that only 11 of the participants (58%) are aware that LTSB offers a mobile banking service whilst 8 participants (42%) are unaware that LTSB offers mobile banking. 5 of the 8 participants (63%) that are unaware LTSB offers mobile banking are male whilst the remaining 3 participants (37%) are female. However, all 19 participants (100%) are aware of LTSB's Internet banking service.

An analysis of respondents' age against awareness of LTSB's mobile banking service provides no worthwhile results.

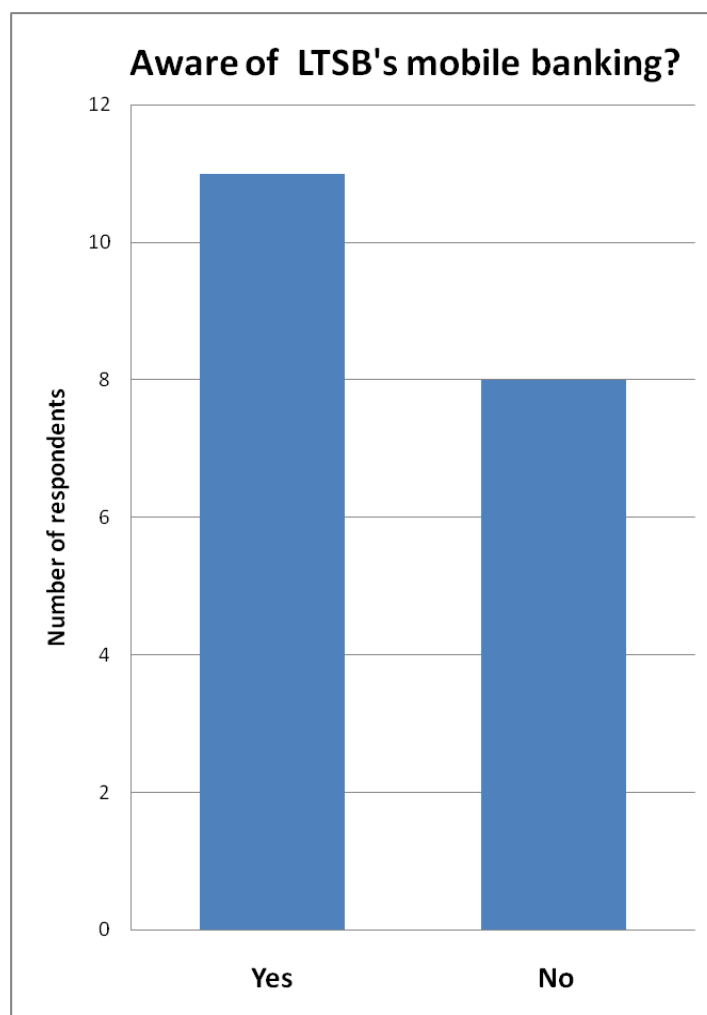


Figure 10 – Awareness of mobile banking



Figure 11 below shows that only one participant (5%) who is male is aware that LTSB offers a mobile banking App for the mobile phone and this participant is in the 25 to 34 age group.

However, whilst 18 of participants (95%) are not aware that LTSB offers a mobile banking App all 19 participants (100%) have regular internet access with a PC or MAC.

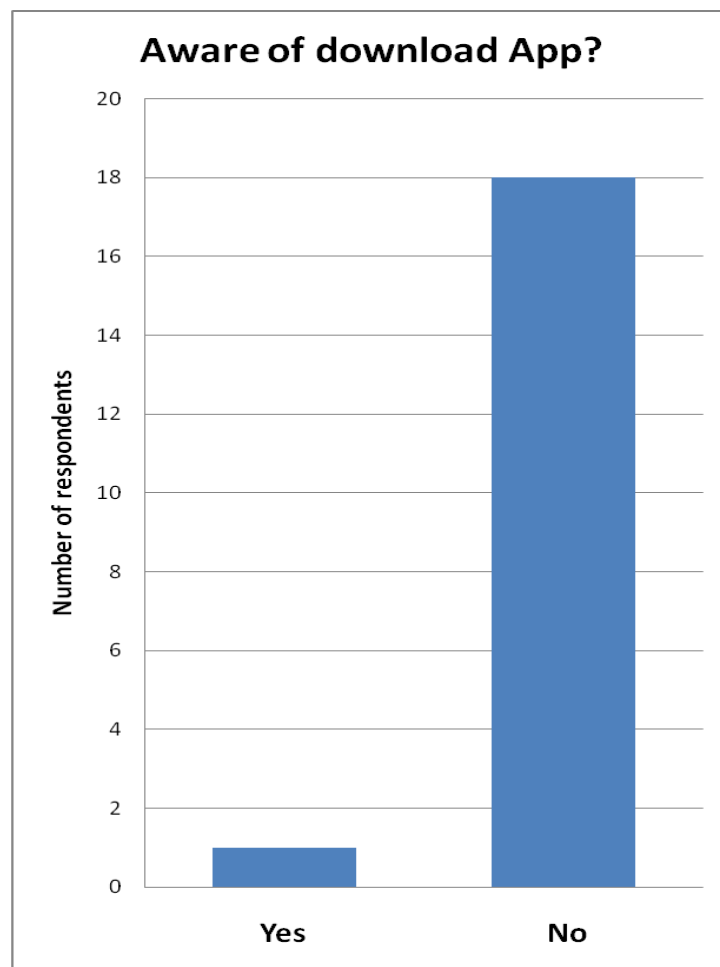


Figure 11 – Awareness of download App

Figure 12 below shows that only 7 participants (37%) are aware that LTSB's Internet banking web site contains mobile banking FAQs and 5 of these 7 participants (71%) are male whilst the remaining 2 participants (29%) are female.

Conversely, 12 participants (63%) are unaware that LTSB's Internet banking web site contains mobile banking FAQs with 5 of these 7 participants (71%) in the age range up to 24 years old.

None of the 19 participants has actually accessed these mobile banking FAQs, although all 19 participants (100%) have regular internet access with a PC or MAC and are also aware of LTSB's Internet banking service.

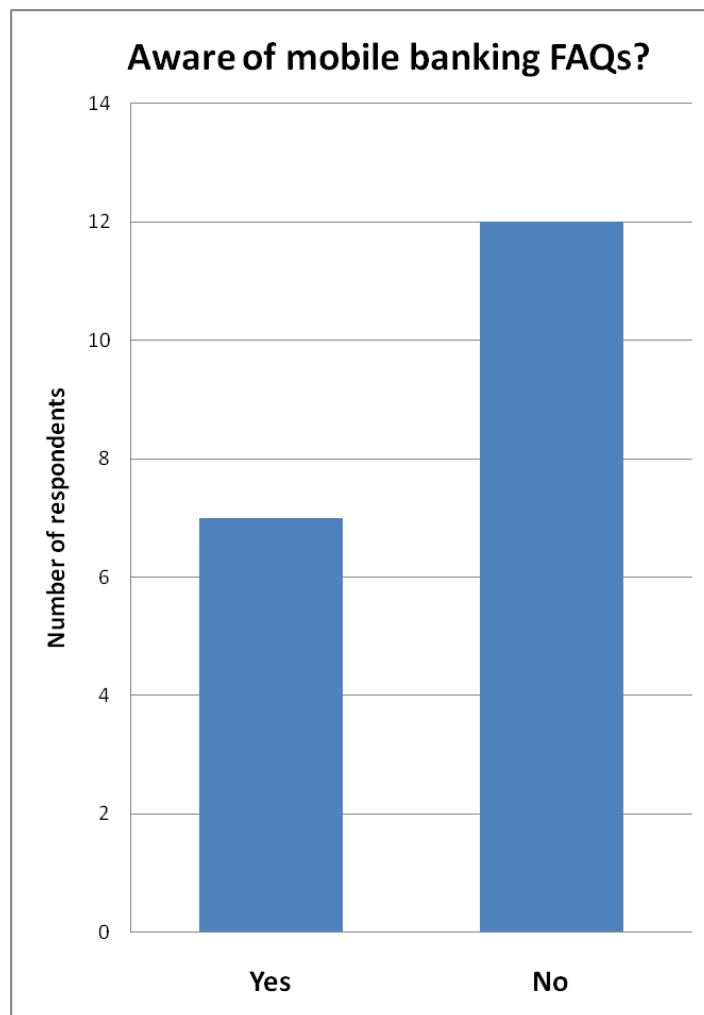


Figure 12 – Awareness of FAQs

Figure 13 below shows that only 2 of the participants (11%) are aware that LTSB provides mobile phone technical support and both of these are female. Conversely, 17 of the participants (89%) are unaware that LTSB provides mobile phone technical support.

None of the 19 participants have actually used this phone based technical support, whilst an analysis of the participants' age against awareness of LTSB's mobile banking technical support provides no worthwhile results.

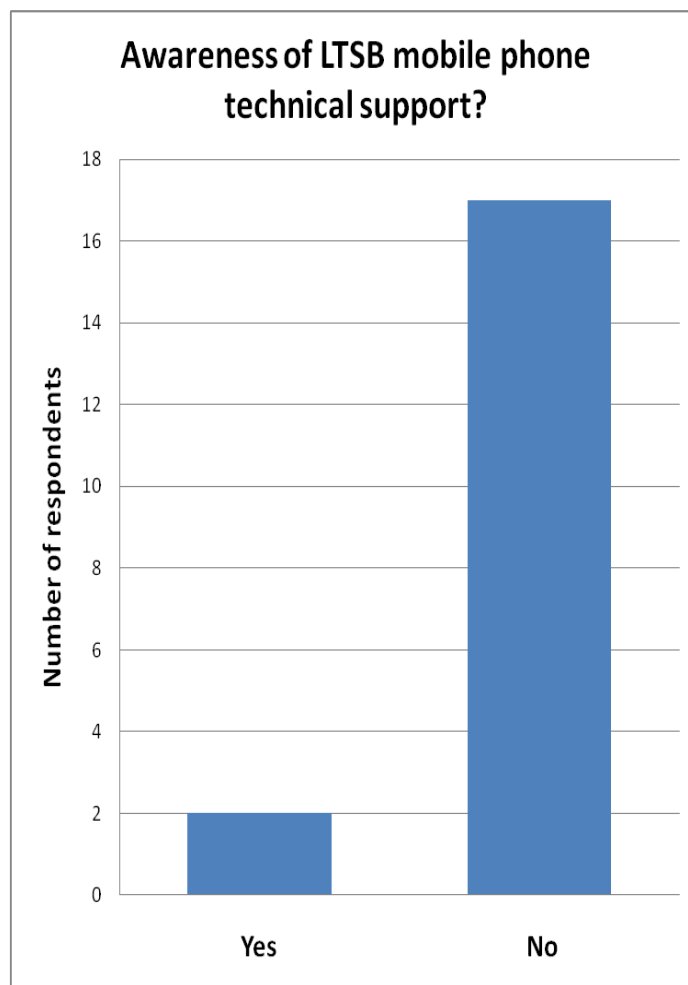


Figure 13 – Awareness of LTSB mobile phone technical support

Figure 14 below shows that all participants have a mobile phone with 11 of the participants (58%) having a smart-phone. 7 of the 11 participants (64%) that have a smart-phone are male whilst the remaining 4 participants (36%) with smart-phones are female.

8 participants (42%) have a standard mobile phone and no participants have any other type of mobile device.

An analysis of respondent's age shows that only 1 of 7 participants (14%) in the 35+ age range has a smart-phone whilst the remaining 6 participants (86%) in this age range have a standard mobile phone.

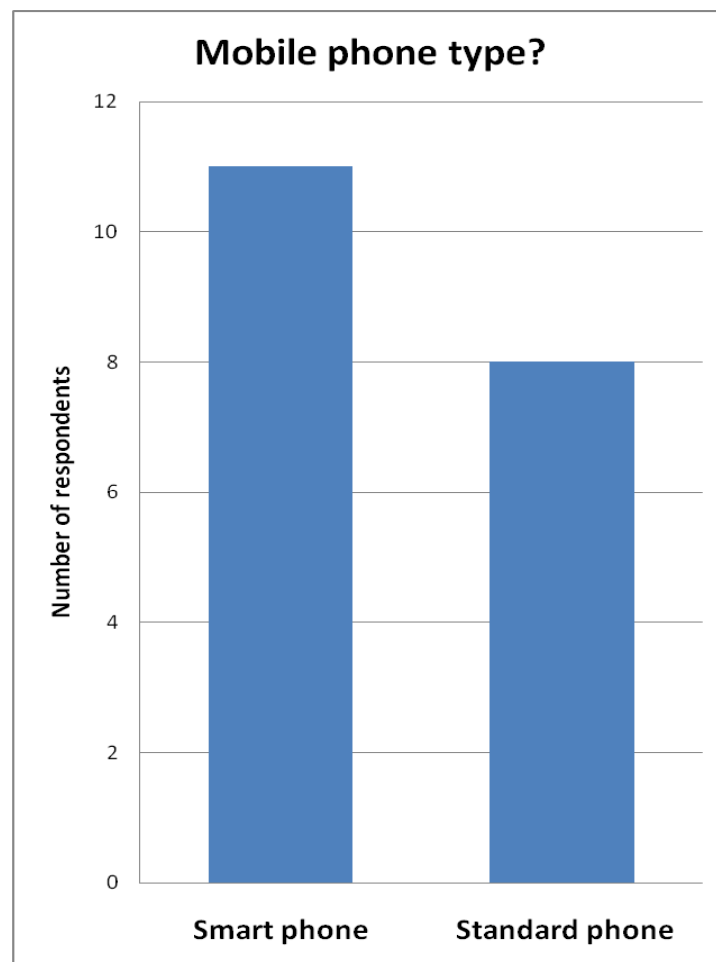


Figure 14 –Mobile phone type

Figure 15 below shows that no participant has any significant difficulty using their mobile phone, although 2 participants (10%) are female and claim using their mobile phone is 'slightly easy'. 14 of the participants (74%) claim using their mobile phone is 'very easy'. The remaining 3 participants (16%) claim using their mobile phone is 'easy' and 2 out of these 3 participants are male.

9 of the 14 participants (65%) that claim using their mobile phone is 'very easy' are in the age range up to 34 years old whilst 1 participant is in the age range 55+ years old and claims using a standard mobile phone is 'slightly easy'.

Whilst all participants (100%) have no significant difficulty using their mobile phone, none of the participants have actually used LTSB's mobile banking service.

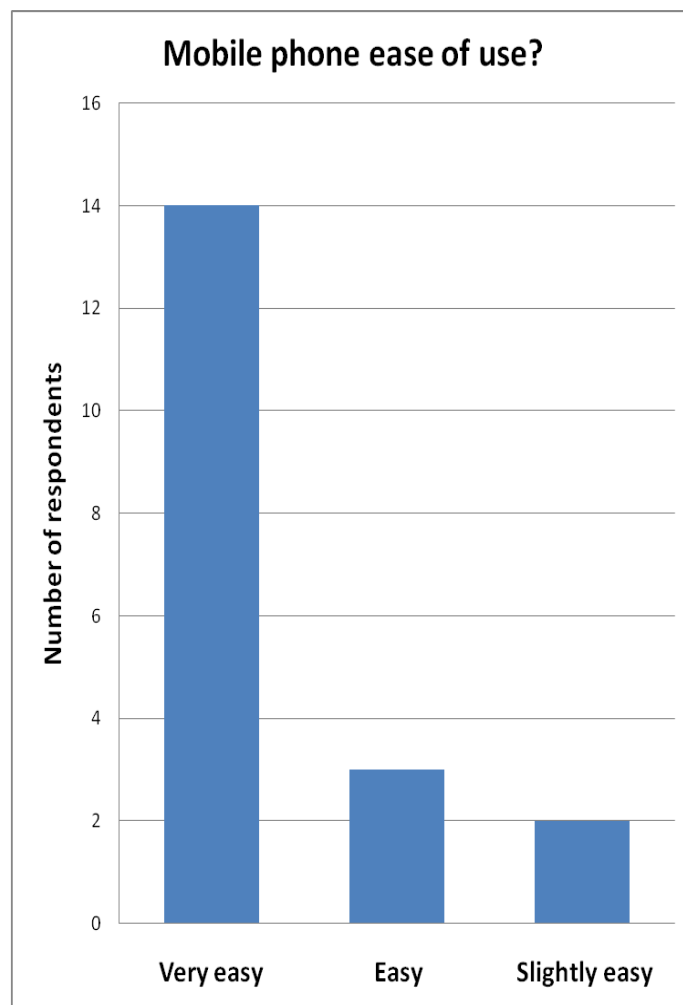


Figure 15 –Mobile phone ease of use

Figure 16 below shows that 17 of the participants (90%) have never used LTSB's mobile banking service and therefore did not express a view on the usefulness of mobile banking.

However, 1 of the participants (5%) who is male thought mobile banking is 'very useful' and is in the age range 25 to 34 years old whilst another participant (5%) who is also male thought mobile banking is 'slightly useful' and is in the age range 35 to 44 years old.

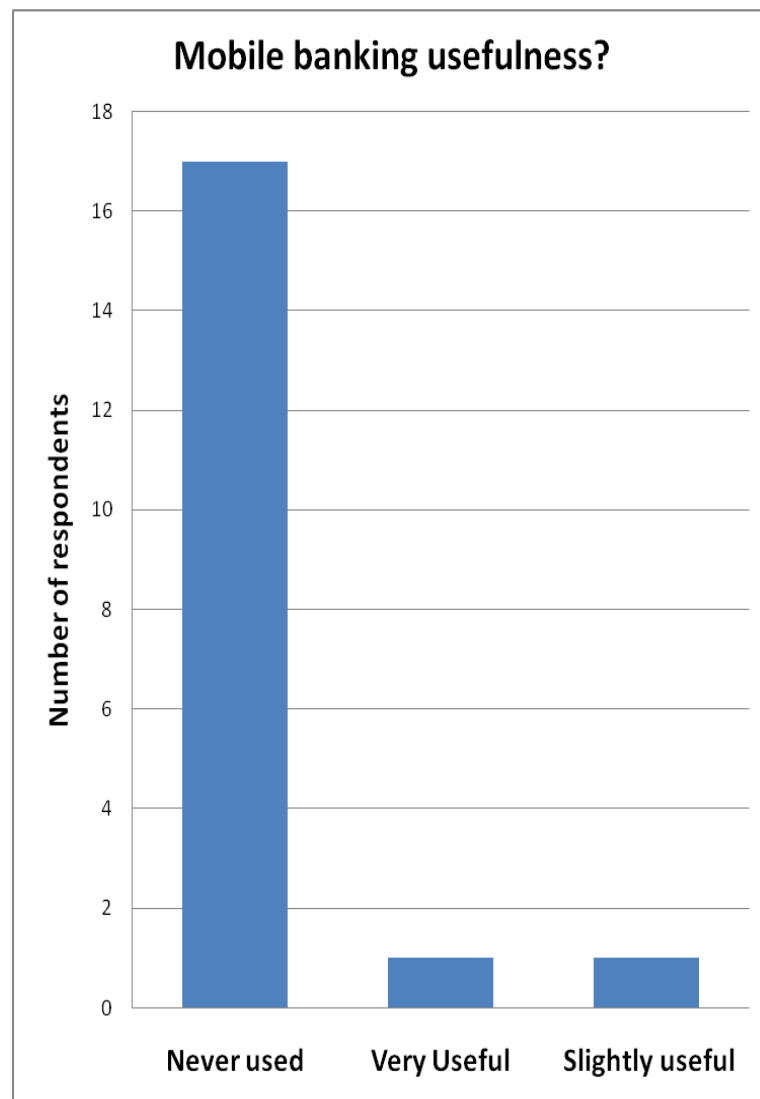


Figure 16 – Mobile banking usefulness

Figure 17 below shows that 15 of the participants (79%) cited 'no need' as one of the reasons for not using LTSB's mobile banking service, 7 of the participants (37%) cited 'lack of awareness', whilst 1 participant (5%) who is female and in the age range 35 to 44 years old indicates that her mobile phone wasn't compatible with LTSB's App.

2 participants (11%) cited cost and are male, 2 participants (11%) cited risk and are male whilst 1 participant (5%) who is also male specifically mentioned the 'other' category and indicated that this was due to the fact that the participant had PC internet access.

5 of the 7 participants (71%) are in the age group up to 24 years old and indicated they had no need for mobile banking. 3 of the 4 participants (75%) that cited multiple answers to this question are male and aged up to 34 years old.

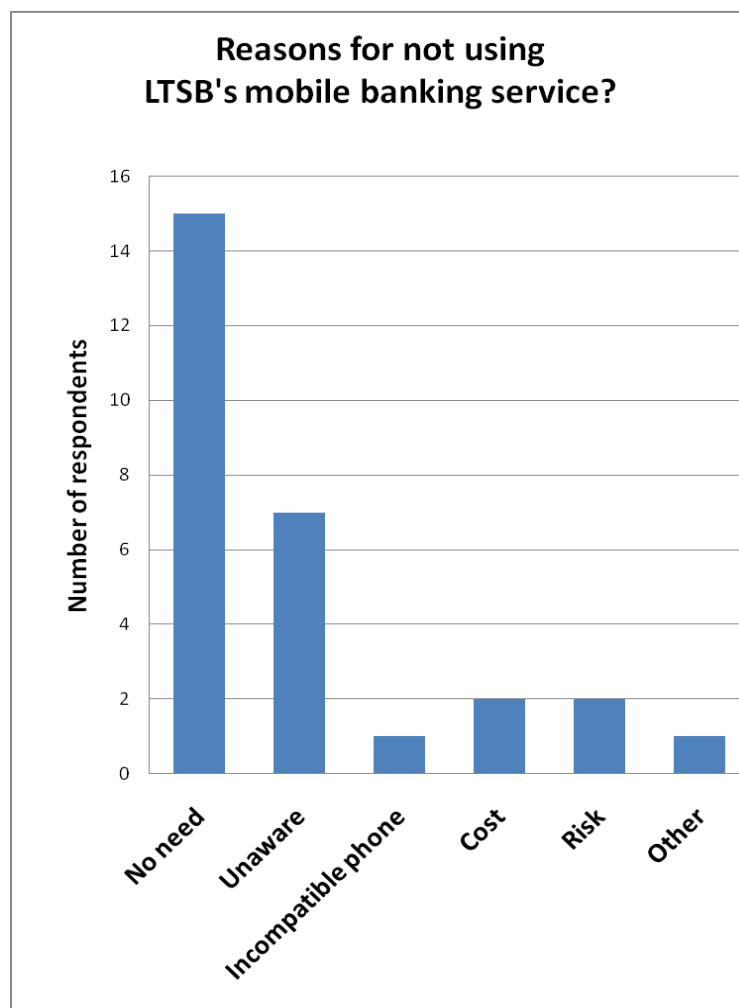


Figure 17 –Reasons for not using mobile banking

Figure 18 below shows that 5 participants (26%) indicate they will never use mobile banking, 12 participants (63%) indicate they may use mobile banking at some stage in the future whilst 2 participants (11%) who are female and aged up to 24 years old indicate they are likely to use mobile banking within the next 12 months.

However, 11 of the 12 participants (92%) who indicated that they may use LTSB's mobile banking are aged up to 34 years old; of which 7 are male (58%) and 5 are female (42%). Only 1 participant who indicated that they may use LTSB's mobile banking was aged over 34 years old.

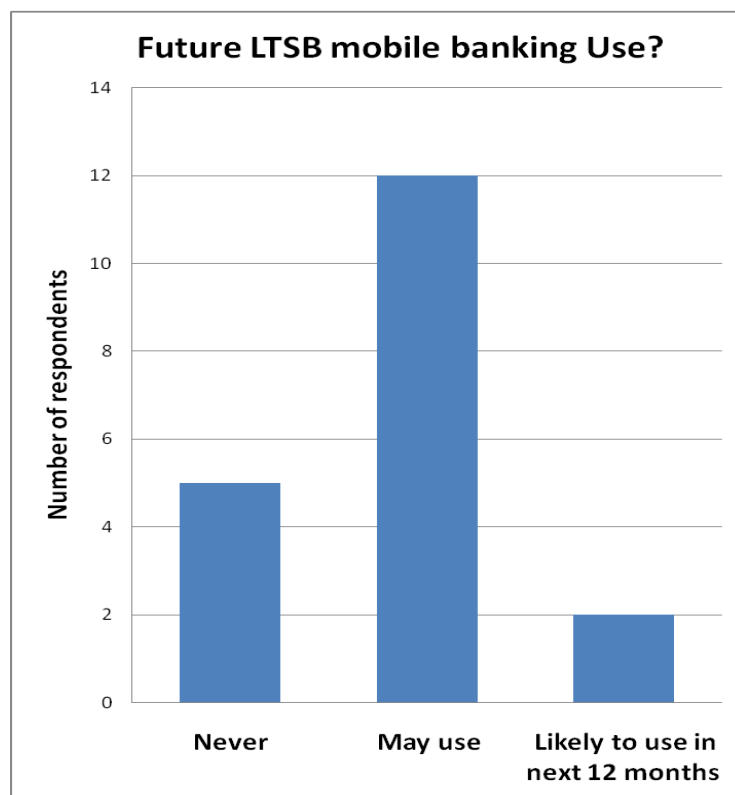


Figure 18 – Future mobile banking use

The significant lack of mobile banking awareness and interest in using LTSB's mobile banking services as shown in this research is consistent with the research findings from YouGuv (2011). This YouGuv research shows that UK consumers are very apathetic about mobile payments with only 10% indicating any interest in using these payment services in future, whilst 67% have no plans to use mobile payments. The results from this research are consistent with ForeSee (2011) which show that only 15% know of Apps or mobile sites for their bank.



### **4.3 Summary**

The completed questionnaires and the resultant data collected and presented above provide an essential observation on the customers' perspectives of LTSB's mobile banking, whilst the information presented in this chapter is produced by following the implementation methods described earlier.

The next chapter critically analyses the research methodology adopted along with the issues encountered undertaking this research. It then provides an analysis of the main findings provided by this research within the context of the body of literature identified in Chapter 2 (Literature Review) and the adopted conceptual model before drawing conclusions. The key limitations of this study are then defined before concluding with an identification of areas where further research opportunities exist.

## **5. Analysis & Conclusions**

### **5.1 Introduction**

This chapter critically analyses the research methodology adopted along with the issues encountered undertaking this research. It then provides an analysis of the main findings provided by this research within the context of the body of literature identified in Chapter 2 (Literature Review) and the adopted conceptual model before drawing conclusions. The key limitations of this study are then defined before concluding with an identification of areas where further research opportunities exist.

### **5.2 Critical Evaluation of Adopted Methodology**

The phenomenological perspective that is used in this research is appropriate for seeking answers to the research question and the specific research aims as this perspective seeks to understand the actual customer experience rather than explaining it as identified by Johnson and Duberley (2000).

Using fixed choice questions answered by customers within a pre-coded questionnaire is also appropriate for seeking answers to the research question and the specific research aims according to Silverman (1993).

However, whilst the adopted perspective and methodology are appropriate for the research question and the research aims, the implementation of the methodology could have been undertaken more effectively. Once LTSB advised they were unwilling to participate in this research, the original methodology needed to be adapted as the researcher was then unable to access existing LTSB mobile banking customers on which to undertake detailed research into their mobile banking usage.

In addition, the actual implementation of the revised methodology including data collection methods, could have been better planned and executed by the researcher once it was established that more generic market research was required.

The actual questions included in the original questionnaire were simple and precise as suggested by Dillman (2007) but the researcher did not adequately consider the number of questions requiring answers and therefore the amount of time required

from each participant to obtain the answers. The researcher also did not adequately consider the time required to obtain a reasonable number of participant responses to increase the credibility of the subsequent research findings.

Furthermore, the original research questions focussed on customer perspectives relating to detailed LTSB mobile banking functionality as the researcher believed that the use of LTSB's mobile banking service would have been much more prevalent than was actually ascertained. As a result of the pilot questionnaire, the researcher quickly identified that the majority of LTSB customers are not even aware of the mobile banking service, let alone could provide an insight into their usage of LTSB's mobile banking service. Consequently a number of the research questions related to LTSB mobile banking functionality were removed and replaced by one generic question as suggested by Bell (2010).

In Chapter 3 (Methodology) the researcher acknowledges that the participant's own perspective of the meaning of the word 'smart-phone' applies to the answer provided. However, the pilot exercise showed that the participants relied upon the researcher to determine if their mobile phone handset qualified as a smart-phone which is consistent with the questionnaire construction theory as proposed by Saunders et al. (2009). In addition, the wording on the participant's future use of mobile banking was clarified following the pilot exercise; whilst improvements were also made to a number of other questions to simplify the process.

According to Saunders et al. (2009) personal contact with participants through a research questionnaire provides the opportunity for participants to receive assurances about the information requested and how that information will be used. However, this personal contact is very time consuming and the researcher found that a large number of potential participants were unwilling to assist in answering research questions which is consistent with claims by Bradburn, Sudman and Wansink (2004). This resulted in the researcher spending considerably more time than anticipated undertaking research in different areas of Chester where the main difficulty was then identifying LTSB customers from those of all other UK banks. A significant number of potential participants were approached but were quickly excluded once it was established potential participants were not LTSB customers.

As a result of the limited volume of data available and the data content, it is not possible to use the Pearson Moment Correlation Coefficient test as recommended by Hinton (1994) to validate the data results and to ensure data validity.

Despite the above critical evaluation of the adopted methodology, the resultant findings are accurate and provide meaningful data that answered the research question.

### **5.3 Analysis/Conclusions about the Research Objective**

The research objective is to “assess LTSB mobile banking usage by customers in the Chester area during June & July 2011” which this section addresses.

Ling (2004) claims that mobile technology has become reliable and easily accessible and consequently it has been adopted on a large scale and is therefore becoming part of the societal landscape in many countries. This research proves that whilst mobile phone technology has been adopted by all LTSB’s participants in this survey, LTSB’s mobile banking adoption is still in an embryonic state.

The lack of customer awareness of LTSB’s mobile banking service is consistent with the findings from a survey by ForeSee (2011) and is one rationale for the lack of mobile banking usage. However, this research also identifies that there is a lack of interest in LTSB’s mobile banking service and this finding is also consistent with YouGuv (2011) research findings.

Davis (1993) identifies that perceived usefulness is more influential than ease of use in determining usage. Perceived usefulness is one factor that Koenig-Lewis et al. (2010) identify as a part of the Diffusion of Innovations Theory model that predicts customer adoption of innovations. However, this research shows that LTSB’s customers do not believe that mobile banking addresses their perceived use.

Research by Walker and Johnson (2006) shows that the willingness of individuals to utilise the services that form part of customer usage is an important aspect of the technology enabled services model. Results from this research clearly show that LTSB customers do not appear to be willing to use LTSB’s mobile banking service which is consistent with earlier findings by Walker and Johnson (2005).

LTSB will need to assess how to increase the usefulness of their mobile banking service in order to overcome the customer's lack of interest in using mobile banking in the future as shown in this research.

Consequently, LTSB will need to assess how to:

- Improve customer awareness of their mobile banking service.
- Ensure customers can identify the benefits of mobile banking.
- Provide mobile banking Apps that allow customers to use the service regardless of their mobile phone type.
- Improve the usefulness of the mobile service to their customers.
- Increase the willingness of customers to use the mobile banking service.

#### **5.4 Analysis/Conclusions about each Research Objective**

The three aims of this research are to explore:

- The types of customer that use LTSB's mobile banking service.
- Customer resistance that restricts wider usage (Attitude).
- The LTSB mobile banking services used (Behaviour).

This section provides the answers to these three aims.

##### **5.4.1 The types of customers that use LTSB's mobile banking service**

As none of the questionnaire participants used LTSB's mobile banking service, the analysis and conclusion from these research findings are based upon comparisons with existing mobile banking research on customer types.

According to Matilla (2003) and Branca (2008) age can be an influencing factor in a customer's perception of ease of use of mobile banking. In addition, Riquelme and Rios (2010) and Branca (2008) identify that gender can also be an influencing factor in a customer's perception of ease of use of mobile banking.

This research did not find any similar correlation with either age or gender being an influencing factor as the majority of participants found using their mobile phone

'very easy' or 'easy', although use of a mobile phone is only one small part of using mobile banking. The majority of participants in this research claimed that using their mobile phone is 'very easy' or 'easy' which is consistent with the findings of Rotchanakitumnuai and Speece (2003) where existing Internet banking participants have more confidence in underlying information systems.

However, the number of participants in this research was very small and consequently it is possible that variations may have shown if a larger volume of research data was available.

This research did find that the younger age groups have an interest in using mobile banking services should the service provision meets their requirements whereas the older age groups had no interest at all and the findings from this research are consistent with those from YouGuv (2011).

#### **5.4.2 Customer resistance that restricts wider usage (Attitude)**

The existing LTSB customer resistance to mobile banking as shown within this research is a factor that LTSB will need to overcome in order to ensure more customers use this service. According to Meuter et al. (2000) using the technology enabled services model, the comparative benefits and advantages need to be clearly understood by customers in order for those customers to use the service. However, even if customers are aware of the benefits they still need to be willing to use these services according to Walker and Johnson (2006).

Matilla (2003) and Branca (2008) identify age can be an influencing factor in customer usage of mobile banking whilst Riquelme and Rios (2010) and Branca (2008) identify that gender can be an influencing factor in customer usage of mobile banking. This research did find that it was only the younger age groups that have an interest in using mobile banking services should the service provision meets their requirements. The older age groups in this research had no interest at all in using mobile banking.

However, the number of participants in this research was very small and consequently it is possible that variations may have shown if a larger volume of customer data was available.

### **5.4.3 The LTSB mobile banking services used (Behaviour)**

As none of the questionnaire participants actually used LTSB's mobile banking service, the research findings compare the lack of LTSB customer behaviour with existing but more generic mobile banking research on behaviour.

Whilst this research has shown customer resistance to LTSB's mobile banking, technology is continually re-interpreted according to Bijker and Law (1992). In addition, Mahajan et al. (1990) identify that customer adoption of innovation is affected by a number of factors including perceived usefulness of and advantages offered by specific innovations. Similarly Wang et al. (2006) using Luarn and Lin's (2005) mobile banking model also identify perceived usefulness as an influencing factor in a customer's intention to use mobile banking. Perceived usefulness is significantly more influential in determining usage according to Davis (1993). This research identifies that nearly 90% of LTSB participants surveyed do not believe that LTSB's current mobile banking service offers them any perceived usefulness which is fully consistent with the previous research.

However, the UK mobile banking market is going through a rapid and significant evolution with the development of mobile banking Apps over the last of years, together with the even more recent developments of NFC payments by UK banks and other UK companies over the last few months. This UK mobile banking evolution provides LTSB with an opportunity to present the mobile banking service to customers where they re-interpret LTSB's mobile banking service. Customers who identify a perceived usefulness may then adapt their behaviour to use LTSB's mobile banking.

A customer has to be able to acknowledge a need and identify that LTSB's mobile banking service can assist in addressing that need which LTSB's mobile banking service does not achieve at this time.

## **5.5 Overall Conclusions**

The lack of customer awareness of LTSB's mobile banking service is consistent with the findings from a survey by ForeSee (2011). The ForeSee survey of 1,000 customers at RBS, LTSB, Barclays, HSBC and Santander shows that "only 15% of

customers know of Apps or mobile banking sites for their bank; whilst only 10% are using their mobile phone to bank, and less than one per cent have actually used the Bank's mobile banking App".

The lack of mobile banking awareness and interest in using mobile banking related services by LTSB's participants is also consistent with the research findings from YouGuv (2011). This YouGuv research shows that UK consumers are very apathetic about mobile payments with only 10% indicating any interest in using these.

However, the lack of customer interest shown in this research, ForeSee (2011) and YouGuv (2011) is not consistent with the research undertaken by Mobile Marketing Association and Lightspeed Partners (Skeldon, 2010) which indicates that 14% of UK adult consumers are already using mobile banking services. The research by Mobile Marketing Association and Lightspeed Partners also claims that "mobile banking is also a young man's game: with 24% of 18-34 year olds in the UK... already engaging with their banks via mobile".

According to Davis (1993), perceived usefulness can determine a customers' interest in using a technology enabled service usage. This research shows that the majority of LTSB's customers have not identified that LTSB's mobile banking service can address their needs at this time.

## **5.6 Limitations of the Study**

This research considered Attitudes and Behaviours towards LTSB's mobile banking service within the Chester area. Consequently, one of the main limitations of this research was inherent from the research objectives where only attitudes and behaviour as they related to specific mobile banking aspects were within the scope.

A further significant limitation of this research was the small number of completed customer questionnaires that were obtained. This arose from the researcher's analysis of the completed questionnaires obtained from the pilot exercise which identified that there were no completed questionnaires obtained from participants that were aware of and used LTSB's mobile banking services. This was partly due to the fact that LTSB declined to participate in this research and as a result the researcher had no access to existing LTSB mobile banking customers.



Whilst the research questionnaire was conducted over several hours on several days at separate locations in the Chester area, this limited both the number and type of responses that were obtained whilst the analysis of questionnaire responses is only valid for the information obtained at that time. Other limitations of this study have been identified and acknowledged within the previous chapters.

## **5.7 Opportunities for Further Research**

This research explores the Attitudes and Behaviours of customers and LTSB's mobile banking service within the Chester area. Further research opportunities exist to explore:

- This research on a wider basis within the Chester area and more widely across the UK as this will add to the pool of knowledge gained from this research whilst extending and validating the findings from this research.
- If increased customer awareness can generate interest in using LTSB's mobile banking.
- Existing LTSB customer attitudes and behaviours related to the specific mobile banking services.
- Types of customers that have downloaded the mobile banking App and if an App for other mobile phone types would be a useful addition.
- How LTSB's mobile banking service can be used to re-activate dormant internet accounts. Barclays Bank (2011a) claim that "a number of customers that have been inactive on our online (*internet*) site... are now regularly using the dot.mobi site on their mobile". Activating existing dormant accounts will assist LTSB in obtaining additional customer usage of their mobile banking services thereby reducing operational costs.

Barclays Bank's recent launch of mobile banking payments (2011b) clearly shows the significant UK market developments in mobile payments using NFC technology. Consequently, further research on LTSB's customer attitudes and behaviours in this rapidly developing mobile payments market will assist LTSB in deciding if these mobile payment services are of interest to their customers.

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## **Appendix A – Original Research Questionnaire**

### **LTSB Mobile Banking Questionnaire Overview**

#### **Background/Introduction**

My name is Chris Hampshire and I am currently in my final year of a 2 year part-time Masters degree in Business Administration (MBA) at the University of Chester. In order to complete this degree course I have to undertake a dissertation research project. I am therefore seeking your assistance answering a short consumer research survey which should take just a few minutes of your time.

I will be undertaking an analysis of the survey responses in July/August 2011 and subsequently writing the dissertation for submission in September 2011.

#### **Research Purpose**

My research project will investigate the current customer usage of Lloyds TSB's (LTSB) mobile banking by customers in the Chester area through a consumer research questionnaire.

This investigation will explore LTSB's mobile banking service and the ways that customers use this service whilst identifying areas of customer resistance that would restrict wider usage. Conclusions will then be made along with recommendations for improving customer adoption of LTSB's mobile banking service.

Your participation in this survey will enable me to include your response in my subsequent data analysis. This will assist me in identifying ways that LTSB can improve their mobile banking usage which will form part of my dissertation.

Your participation is strictly voluntary, no personal or banking information will be gathered as part of this survey and all results will be presented in a summary form only.

#### **Completion Instructions**

If you have more than one bank account then please answer these questions **based upon your primary bank account**.

For each question please tick the appropriate box which best reflects your answer (except where indicated otherwise).

### **LTSB Mobile Banking Questionnaire**

1. Are you a LTSB customer? ☐ Yes ☐ No  
(if No then thank you but no further questions)
2. Do you have a LTSB current account? ☐ Yes ☐ No  
(if No then thank you but no further questions)
3. Are you aware that LTSB offers Internet banking? ☐ Yes ☐ No
  
4. Are you aware that LTSB offers a mobile banking service? ☐ Yes ☐ No
5. Do you have regular access to a PC or an Apple Mackintosh (Mac) ☐ Yes ☐ No
6. What type of mobile phone do you have? Smart-phone ☐  
Standard mobile phone ☐  
Other mobile device e.g. i-pad, tablet ☐
  
7. Are you aware LTSB provide a download application for mobile phones? ☐ Yes ☐ No
8. Have you downloaded LTSB's mobile phone application? ☐ Yes ☐ No
9. Are you aware of LTSB's web site FAQs on mobile banking? ☐ Yes ☐ No
10. Have you ever accessed LTSB's mobile banking Frequently Asked Questions (FAQs)? ☐ N/A ☐ Yes ☐ No
11. Did accessing LTSB's mobile banking FAQs resolve the issue or answer the enquiry? ☐ N/A ☐ Yes ☐ No
12. Are you aware that LTSB offers mobile banking technical support by phone? ☐ Yes ☐ No
13. Have you ever used LTSB's mobile banking technical support phone service? ☐ N/A ☐ Yes ☐ No
14. Did the phone call to LTSB's mobile banking technical support resolve the problem? ☐ Yes ☐ No
  
15. How easy do you find using your mobile phone/device? Never used ☐  
Very easy ☐  
Slightly easy ☐  
Easy ☐  
Slightly difficult ☐  
Very difficult ☐
  
16. How easy is it to use LTSB's mobile phone application? Never used ☐  
Very easy ☐  
Slightly easy ☐  
Easy ☐  
Slightly difficult ☐  
Very difficult ☐

17. How easy was it to complete LTSB's Internet banking registration?

- |                    |                                     |
|--------------------|-------------------------------------|
| Never used         | <input type="checkbox"/> Go to Q27. |
| Very easy          | <input type="checkbox"/>            |
| Slightly easy      | <input type="checkbox"/>            |
| Easy               | <input type="checkbox"/>            |
| Slightly difficult | <input type="checkbox"/>            |
| Very difficult     | <input type="checkbox"/>            |

18. How easy was it to complete LTSB's mobile banking registration?

- |                    |                                     |
|--------------------|-------------------------------------|
| Never used         | <input type="checkbox"/> Go to Q27. |
| Very easy          | <input type="checkbox"/>            |
| Slightly easy      | <input type="checkbox"/>            |
| Easy               | <input type="checkbox"/>            |
| Slightly difficult | <input type="checkbox"/>            |
| Very difficult     | <input type="checkbox"/>            |

19. Which LTSB mobile banking services have you used? ***(please tick all that apply)***

- |                                 |                          |
|---------------------------------|--------------------------|
| None                            | <input type="checkbox"/> |
| Receive text (SMS) alerts       | <input type="checkbox"/> |
| Send text (SMS) request to LTSB | <input type="checkbox"/> |
| Balance Enquiry                 | <input type="checkbox"/> |
| Inter-account Money Transfer    | <input type="checkbox"/> |
| Bill Payment                    | <input type="checkbox"/> |
| Statement Request               | <input type="checkbox"/> |
| Other (please specify)          | <input type="checkbox"/> |

-----  
20. How easy is it to send a text (SMS) request to LTSB?

(for Balance, cheque book request, pay-in book request and PIN request)

- |                    |                          |
|--------------------|--------------------------|
| Never used         | <input type="checkbox"/> |
| Very easy          | <input type="checkbox"/> |
| Slightly easy      | <input type="checkbox"/> |
| Easy               | <input type="checkbox"/> |
| Slightly difficult | <input type="checkbox"/> |
| Very difficult     | <input type="checkbox"/> |

21. How useful do you find sending at text (SMS) request to LTSB?

- |                 |                          |
|-----------------|--------------------------|
| Never used      | <input type="checkbox"/> |
| Very useful     | <input type="checkbox"/> |
| Slightly useful | <input type="checkbox"/> |
| Useful          | <input type="checkbox"/> |
| Not very useful | <input type="checkbox"/> |
| Useless         | <input type="checkbox"/> |

22. How useful do you find the receipt of a text (SMS) alert from LTSB?

- Never used ☐
- Very useful ☐
- Slightly useful ☐
- Useful ☐
- Not very useful ☐
- Useless ☐

23. How useful do you find LTSB's Mobile Banking Balance Enquiry service?

- Never used ☐
- Very useful ☐
- Slightly useful ☐
- Useful ☐
- Not very useful ☐
- Useless ☐

24. How useful do you find LTSB's Mobile Banking inter-account Money Transfer service?

- Never used ☐
- Very useful ☐
- Slightly useful ☐
- Useful ☐
- Not very useful ☐
- Useless ☐

25. How useful do you find LTSB's Mobile Banking Bill Payment service?

- Never used ☐
- Very useful ☐
- Slightly useful ☐
- Useful ☐
- Not very useful ☐
- Useless ☐

26. How useful do you find LTSB's Mobile Banking Statement Request service?

- Never used ☐
- Very useful ☐
- Slightly useful ☐
- Useful ☐
- Not very useful ☐
- Useless ☐

27. Reasons for you not using LTSB's mobile banking service? **(please indicate all that apply)**

- No need ☐
  - Not aware of service ☐
  - Incompatible mobile phone ☐
  - Cost ☐
  - Risk ☐
  - Other (please specify) ☐
- 

28. Your future use of LTSB's mobile banking service?

- Never ☐
- May use ☐
- Likely to use in next 12 months ☐
- Likely to use in 12+ months ☐

29. Your age group?

- Up to 24 ☐
- 25 to 34 ☐
- 35 to 44 ☐
- 45 to 54 ☐
- 55 to 64 ☐
- 65+ ☐
- Prefer not to disclose ☐

30. Your gender?

- Male ☐
- Female ☐

**Thank you for taking the time to answer these questions.**



## **Appendix B – Final Research Questionnaire**

### **LTSB Mobile Banking Questionnaire Overview**

#### **Background/Introduction**

My name is Chris Hampshire and I am currently in my final year of a 2 year part-time Masters degree in Business Administration (MBA) at the University of Chester. In order to complete this degree course I have to undertake a dissertation research project. I am therefore seeking your assistance in answering a short consumer research survey which should take just a few minutes of your time.

I will be undertaking an analysis of the survey responses in July/August 2011 and subsequently writing the dissertation for submission in September 2011.

#### **Research Purpose**

My research project will investigate the current customer usage of Lloyds TSB's (LTSB) mobile banking by customers in the Chester area through a consumer research questionnaire.

This investigation will explore LTSB's mobile banking service and the ways that customers use this service whilst identifying areas of customer resistance that would restrict wider usage. Conclusions will then be made along with recommendations for improving customer adoption of LTSB's mobile banking service.

Your participation in this survey will enable me to include your response in my subsequent data analysis. This will assist me in identifying ways that LTSB can improve their mobile banking usage which will form part of my dissertation.

Your participation is strictly voluntary, no personal or banking information will be gathered as part of this survey and all results will be presented in a summary form only.

#### **Completion Instructions**

If you have more than one bank account then please answer these questions **based upon your primary bank account**.

For each question please tick the appropriate box which best reflects your answer (except where indicated otherwise).

### **LTSB Mobile Banking Questionnaire**

1. Are you a LTSB customer? ☐ Yes ☐ No  
(if No then thank you but no further questions)
2. Do you have a LTSB current account? ☐ Yes ☐ No  
(if No then thank you but no further questions)
3. Are you aware that LTSB offers Internet banking? ☐ Yes ☐ No
4. Are you aware that LTSB offers a mobile banking service? ☐ Yes ☐ No
5. Do you have regular access to a PC or an Apple Mackintosh (Mac) ☐ Yes ☐ No
6. What type of mobile phone do you have? Smart-phone ☐  
Standard mobile phone ☐  
Other mobile device e.g. i-pad, tablet ☐  
None ☐
7. Are you aware LTSB provide a download application for mobile phones? ☐ Yes ☐ No Go to Q9.
8. Have you downloaded LTSB's mobile phone application? ☐ Yes ☐ No
9. Are you aware of LTSB's web site Frequently Asked Questions (FAQs) on mobile banking? ☐ Yes ☐ No Go to Q12.
10. Have you ever accessed LTSB's mobile banking FAQs? ☐ N/A ☐ Yes ☐ No
11. Did accessing LTSB's mobile banking FAQs resolve the issue or answer the enquiry? ☐ N/A ☐ Yes ☐ No
12. Are you aware that LTSB offers mobile banking technical support by phone? ☐ Yes ☐ No Go to Q15
13. Have you ever used LTSB's mobile banking technical support phone service? ☐ N/A ☐ Yes ☐ No
14. Did the phone call to LTSB's mobile banking technical support resolve the problem? ☐ Yes ☐ No
15. How easy do you find using your mobile phone/device? Never used ☐  
Very easy ☐  
Slightly easy ☐  
Easy ☐  
Slightly difficult ☐  
Very difficult ☐

16. How easy is it to use LTSB's mobile phone application?

- Never used ☐
- Very easy ☐
- Slightly easy ☐
- Easy ☐
- Slightly difficult ☐
- Very difficult ☐

17. Which LTSB mobile banking services have you used? **(please tick all that apply)**

- None ☐
- Receive text (SMS) alerts ☐
- Send text (SMS) request to LTSB ☐
- Balance Enquiry ☐
- Inter-account Money Transfer ☐
- Bill Payment ☐
- Statement Request ☐
- Other (please specify) ☐

-----

18. How useful do you find LTSB's mobile banking services?

- Never used ☐
- Very useful ☐
- Slightly useful ☐
- Useful ☐
- Not very useful ☐
- Useless ☐

19. Reasons for you not using LTSB's mobile banking service? **(please indicate all that apply)**

- No need ☐
- Not aware of service ☐
- Incompatible mobile phone ☐
- Cost ☐
- Risk ☐
- Other (please specify) ☐

-----

20. Will you use of LTSB's mobile banking service in future?

- Never ☐
- May use ☐
- Likely to use in next 12 months ☐
- Likely to use in 12+ months ☐

21. Your age group?

Up to 24 ☐

25 to 34 ☐

35 to 44 ☐

45 to 54 ☐

55 to 64 ☐

65+ ☐

Prefer not to disclose ☐

22. Your gender?

Male ☐

Female ☐

**Thank you for taking the time to answer these questions.**